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THE UNIVERSITY OF ALBERTA

STRING TRIO

BY

JOSE CARLOS BUONACORSO

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF MUSIC

IN

COMPOSITION

DEPARTMENT OF MUSIC

EDMONTON, ALBERTA

FALL 1988

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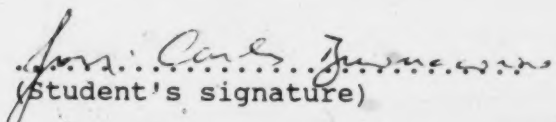

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Sao Paulo - S.P. BRAZIL

Date: June 30, 1988

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FACULTY OF GRADUATE STUDIES AND RESEARCH

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ABSTRACT

This thesis consists of an original composition and its analysis. Scored for violin, viola, and cello, the String Trio is approximately 20 minutes in length. The analysis deals with general matters of structure as well as details of harmonic organization that play a specific and outstanding role in this work.

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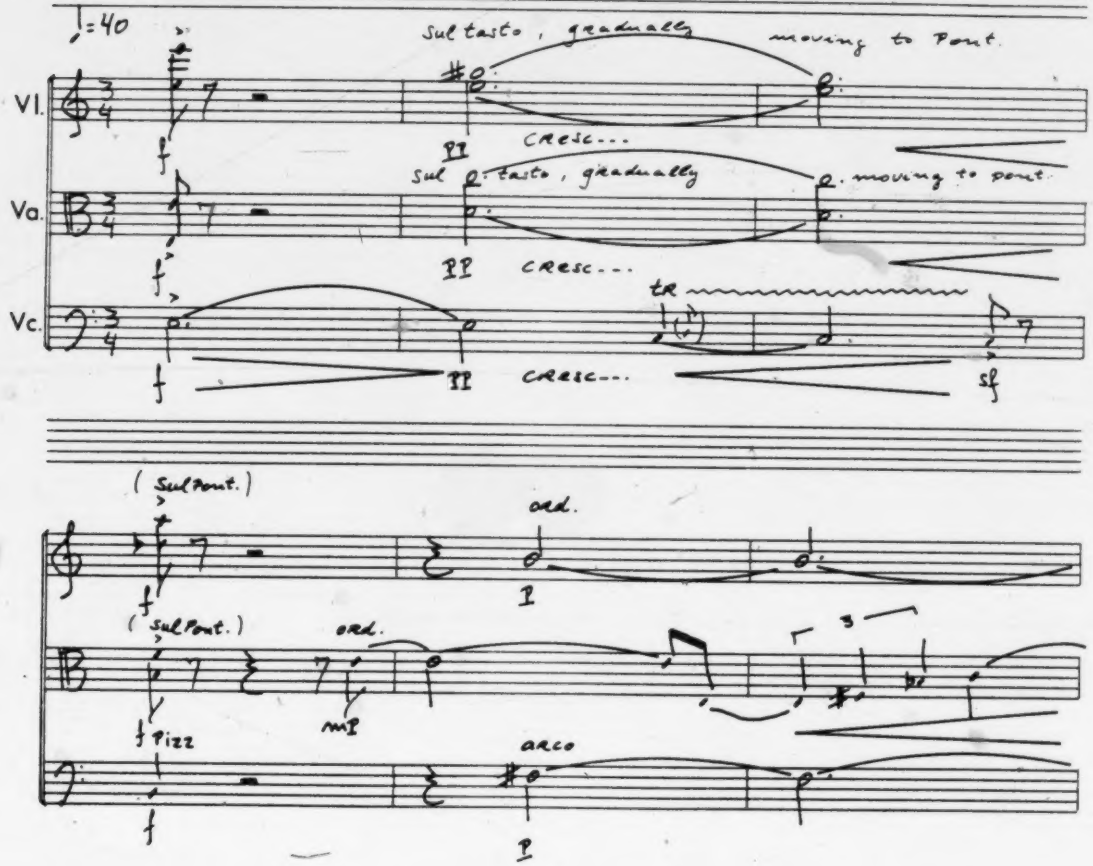
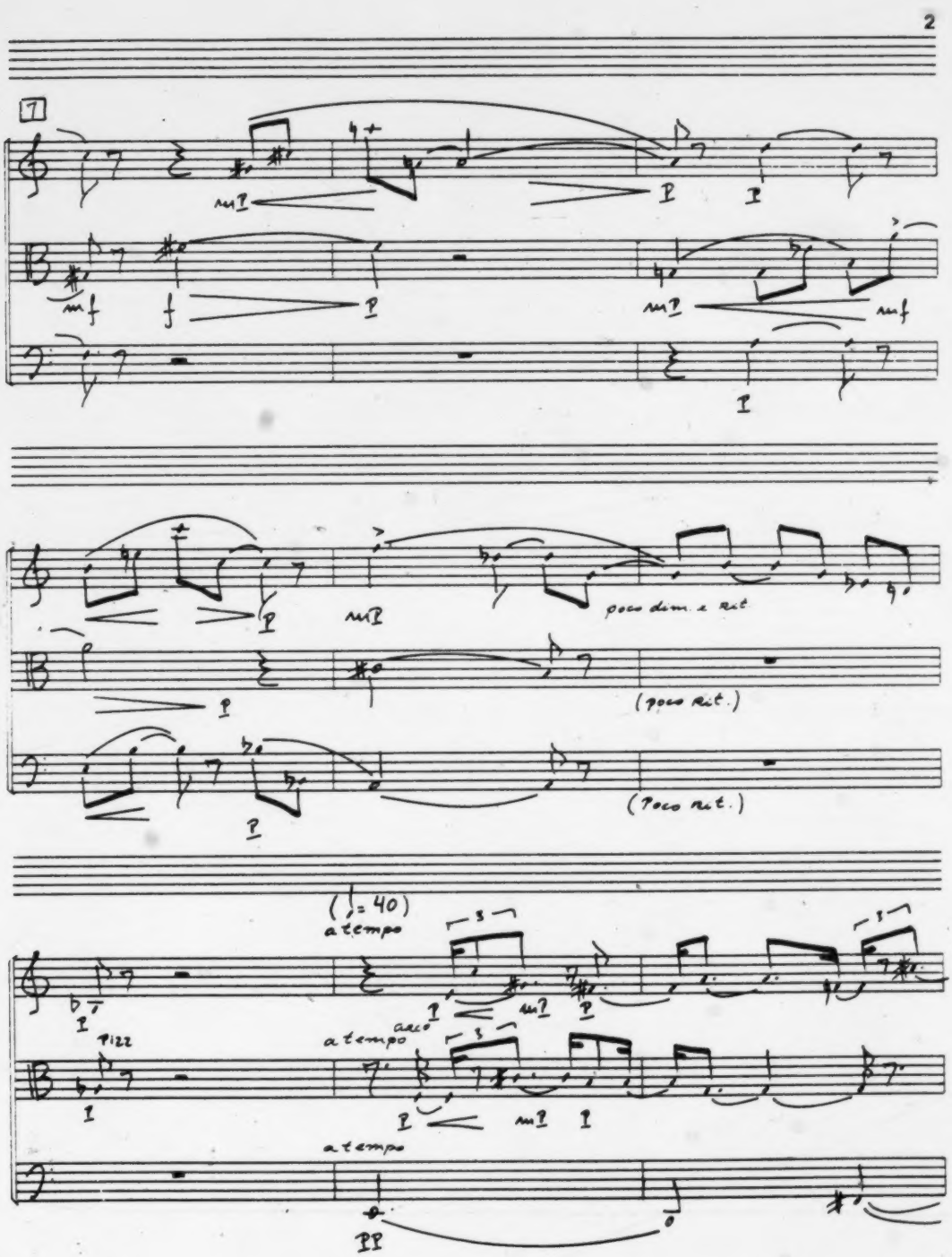
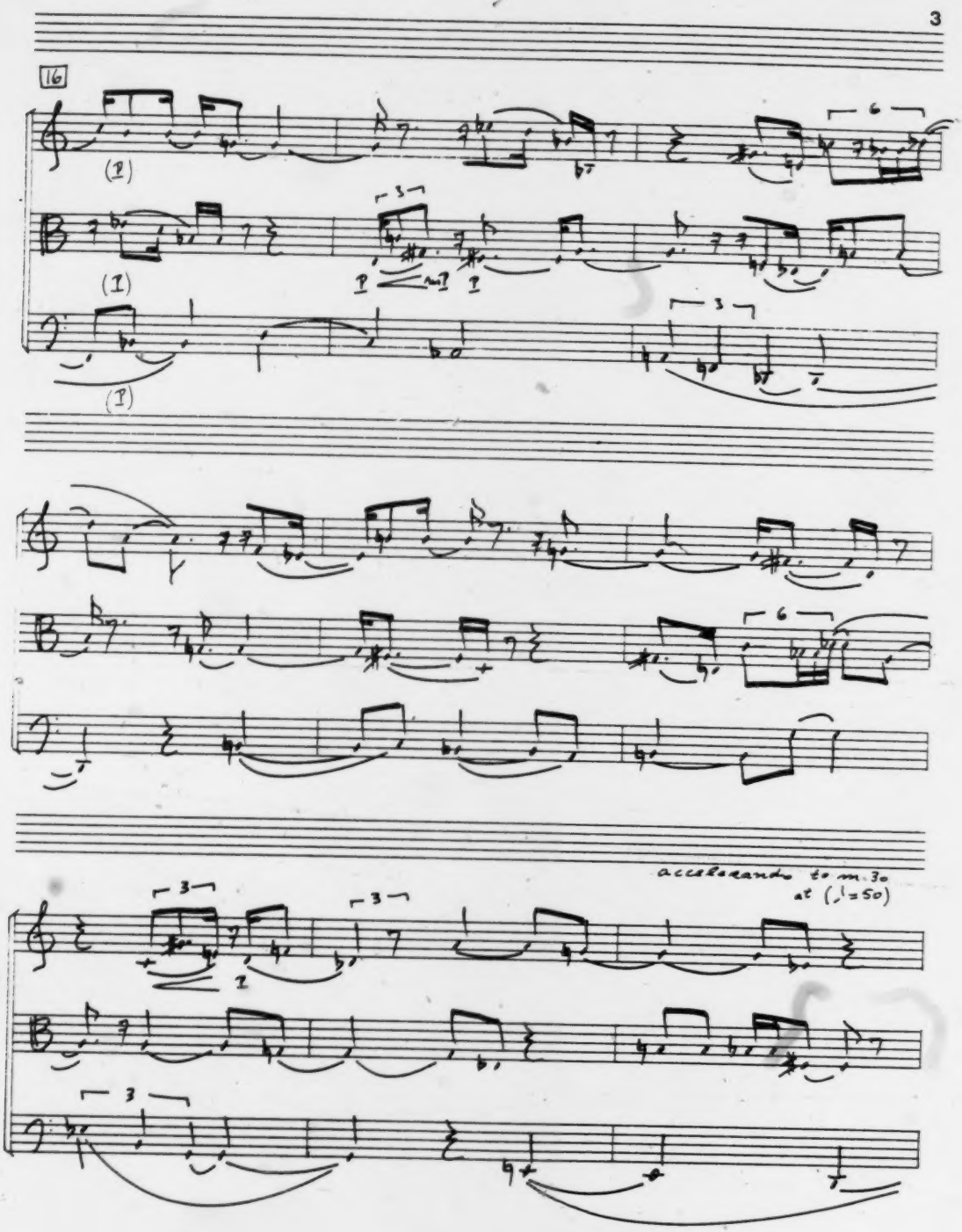
STRING TRIO

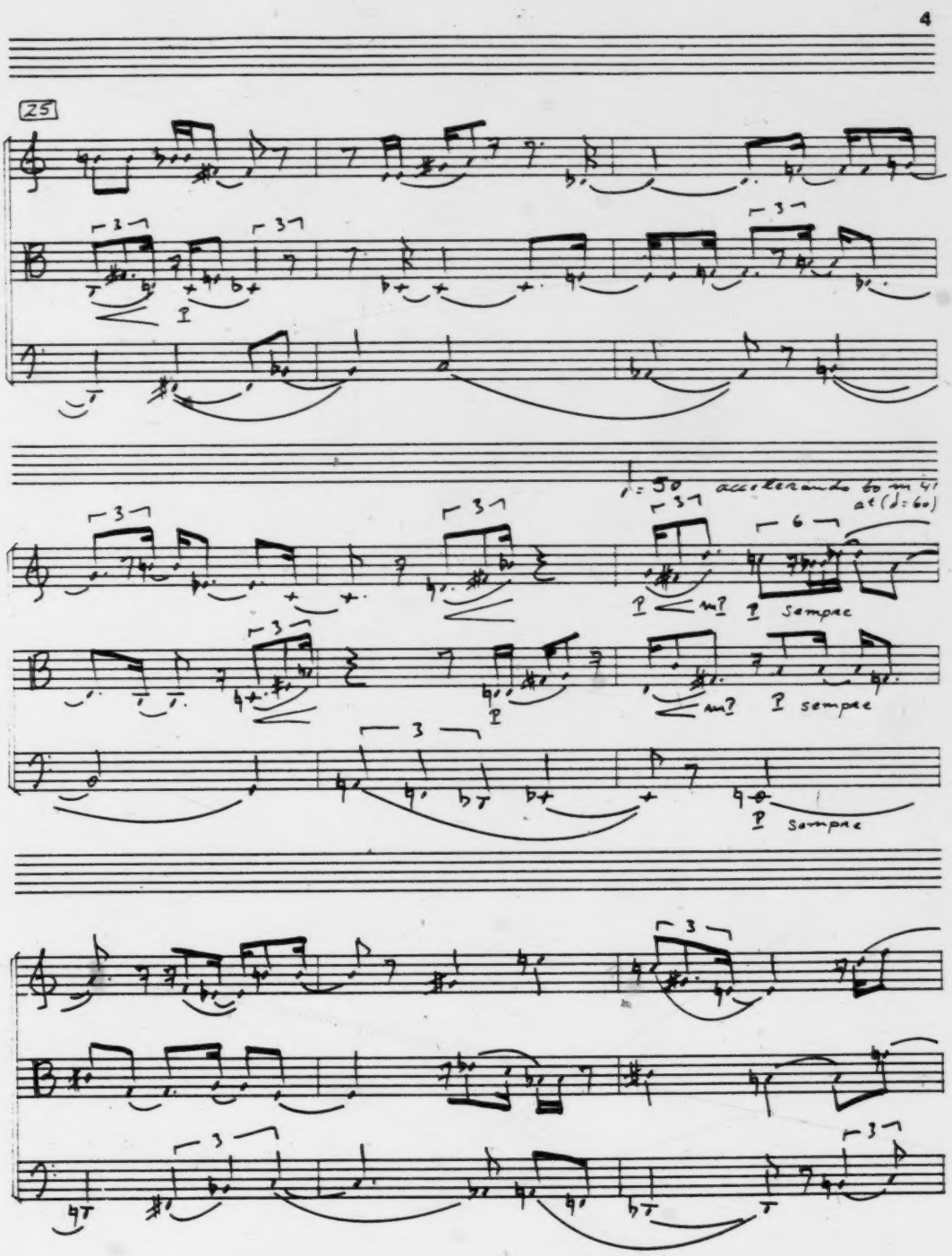
by J. Buonacorso

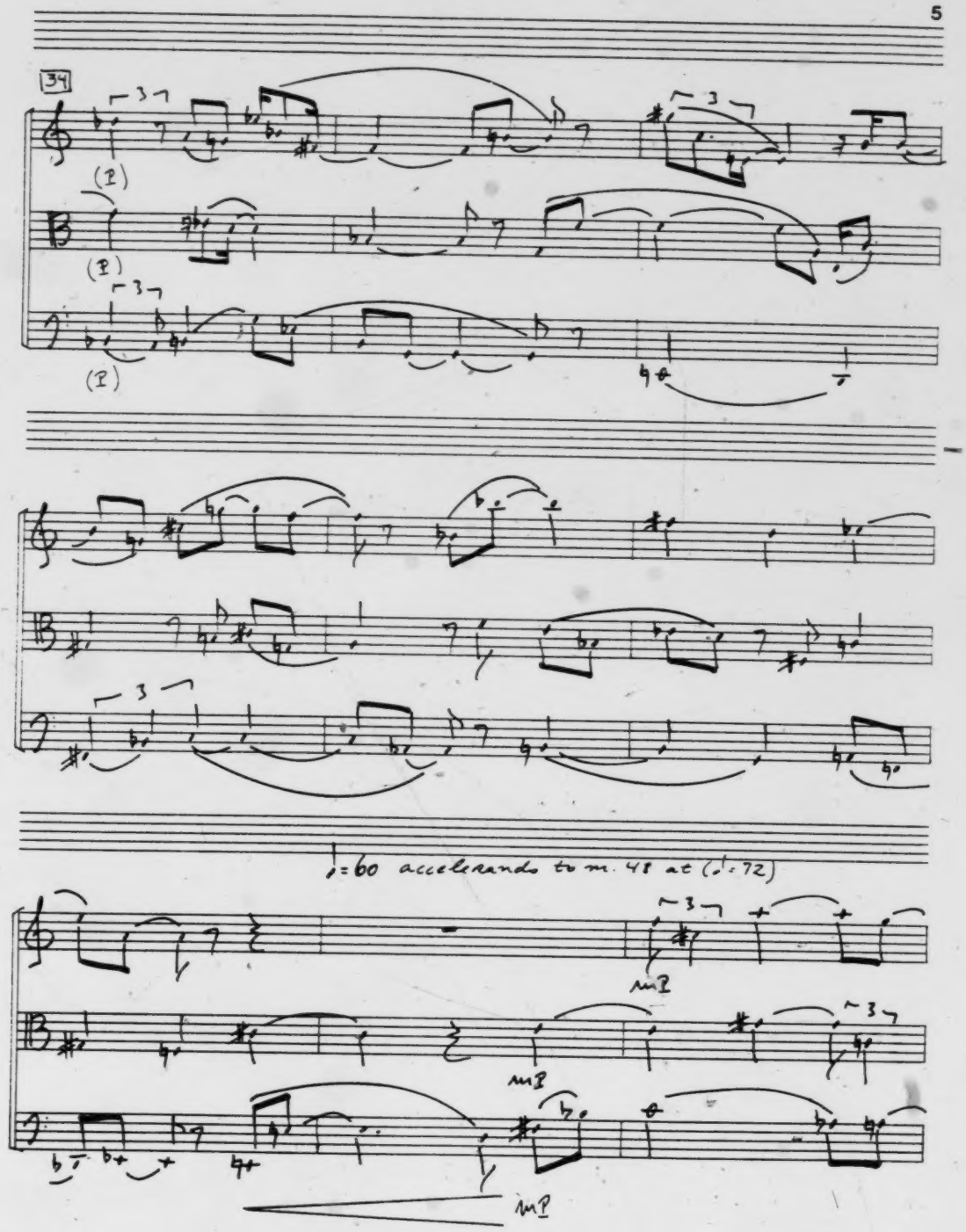
I

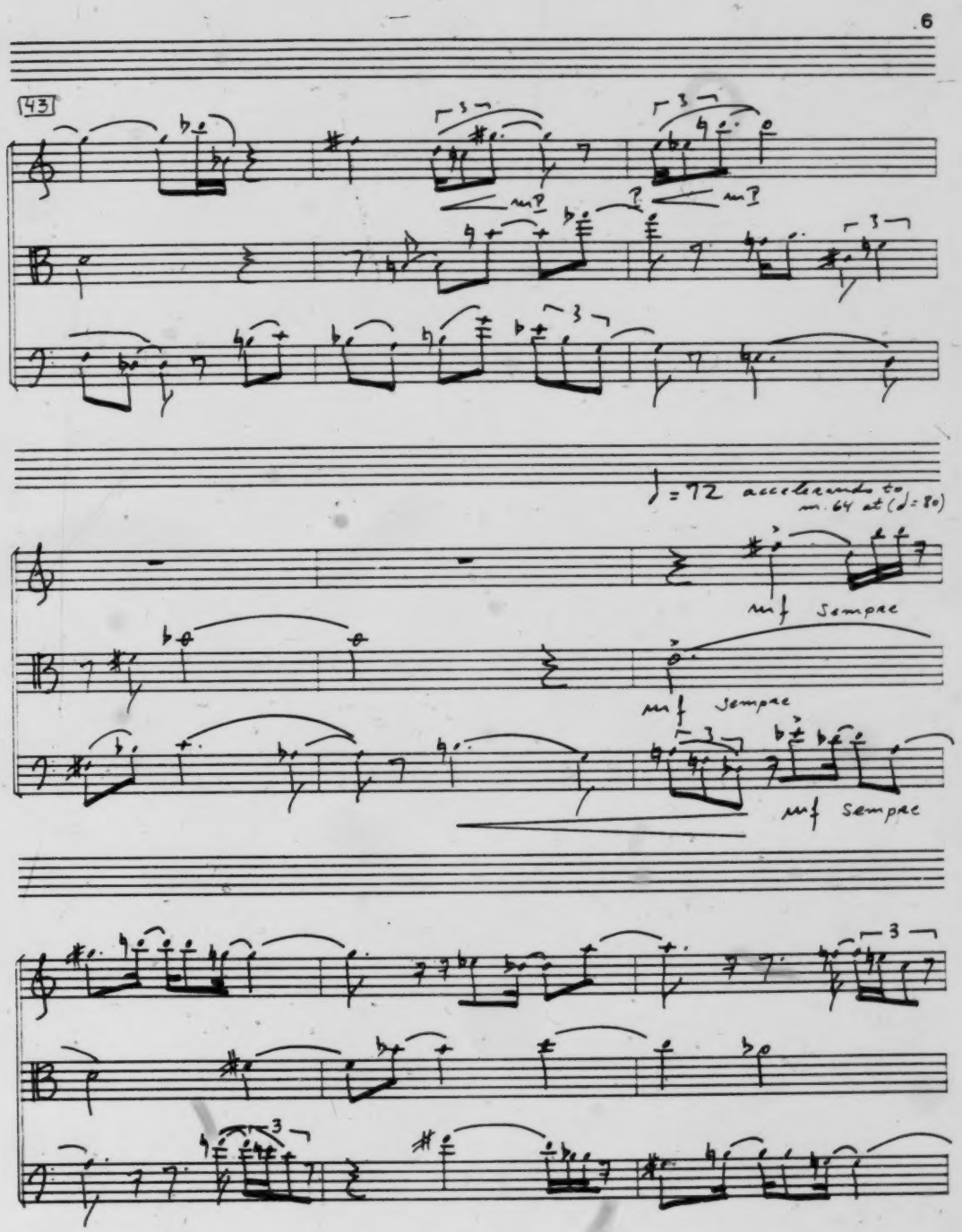


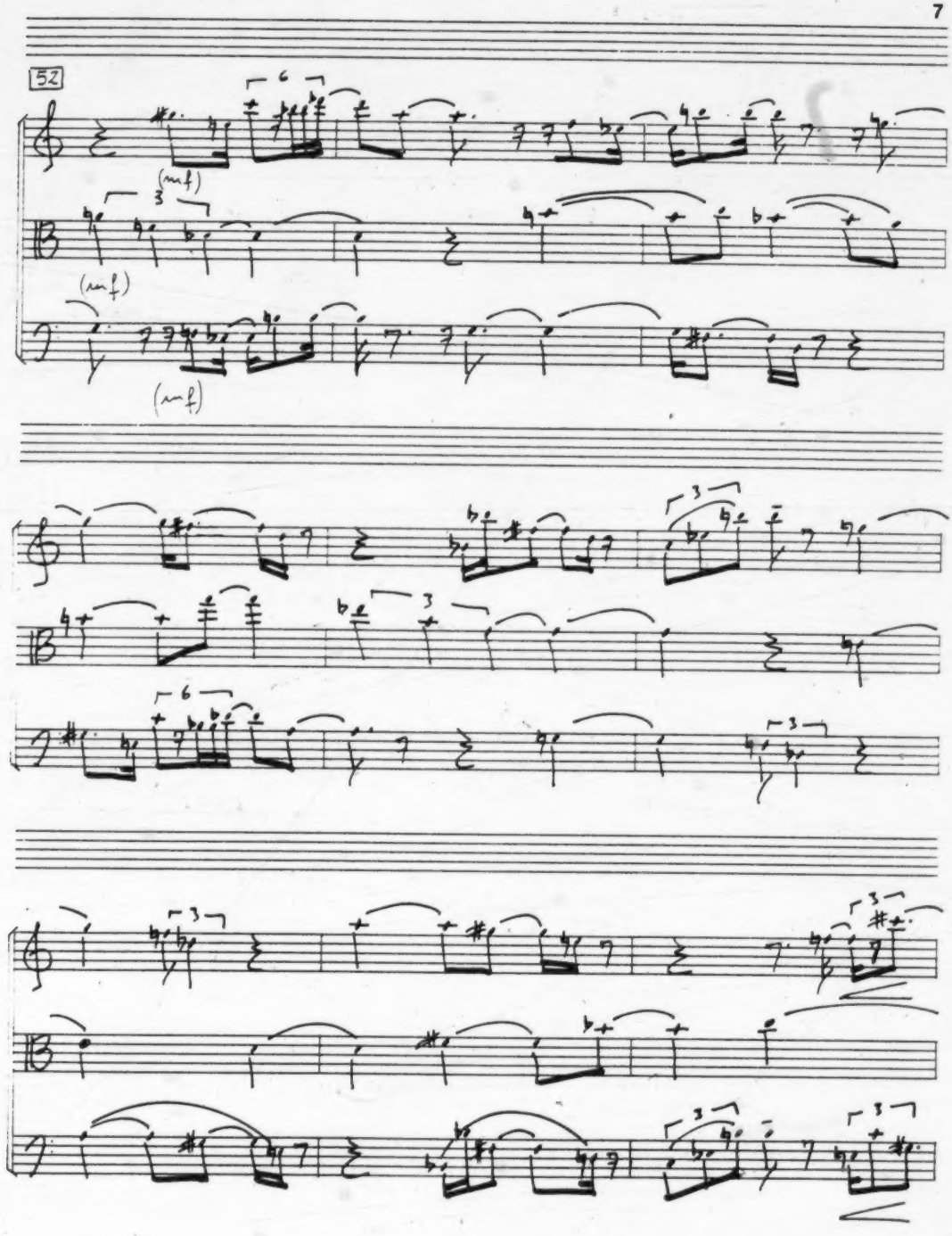

7
mf
f
mp
poco dim. e rit.
(poco rit.)
(poco rit.)
(♩= 40)
a tempo
Pizz
arco
a tempo
a tempo
pp

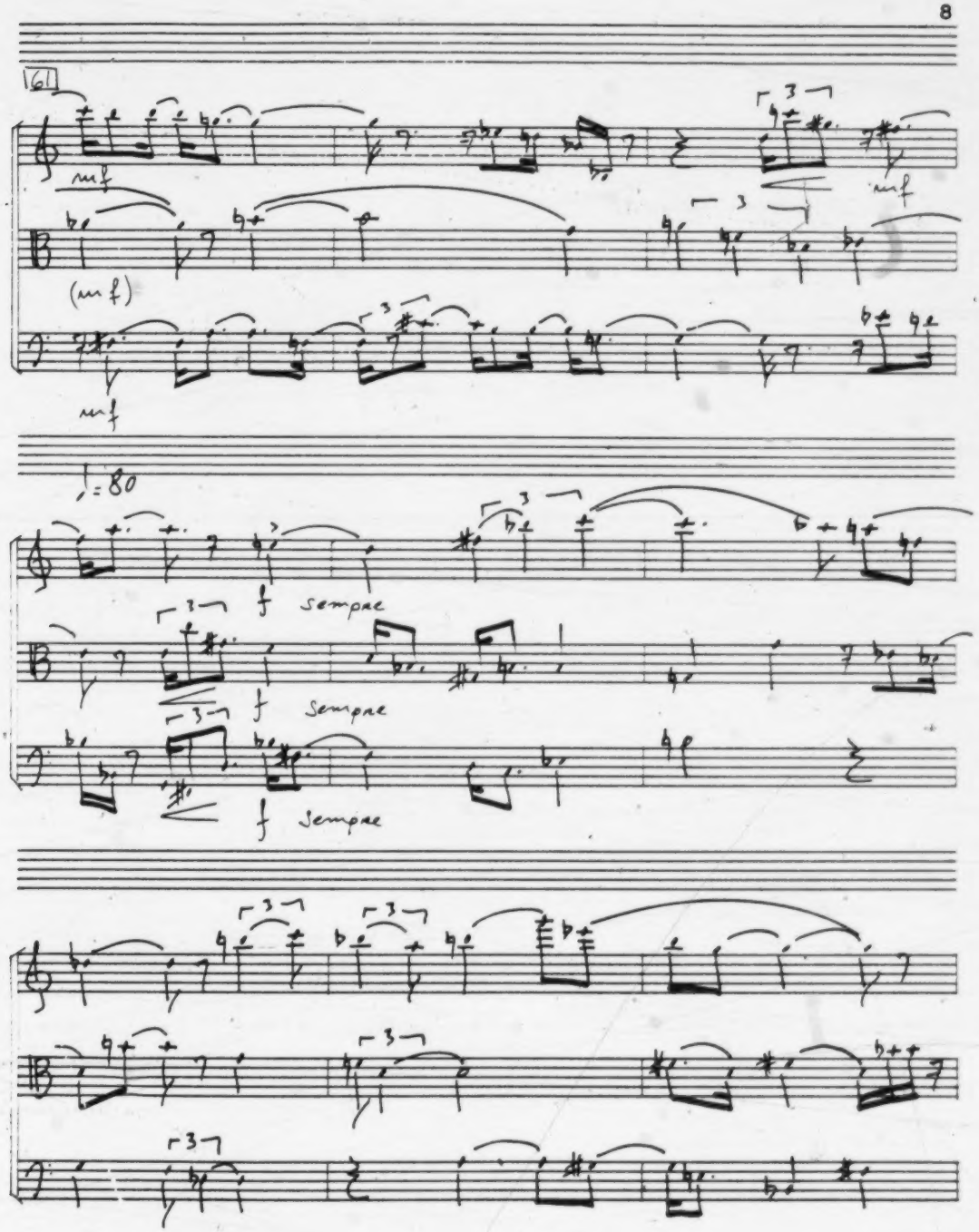

16
(I)
(I)
(I)
accelerando to m. 30
at (♩.=50)

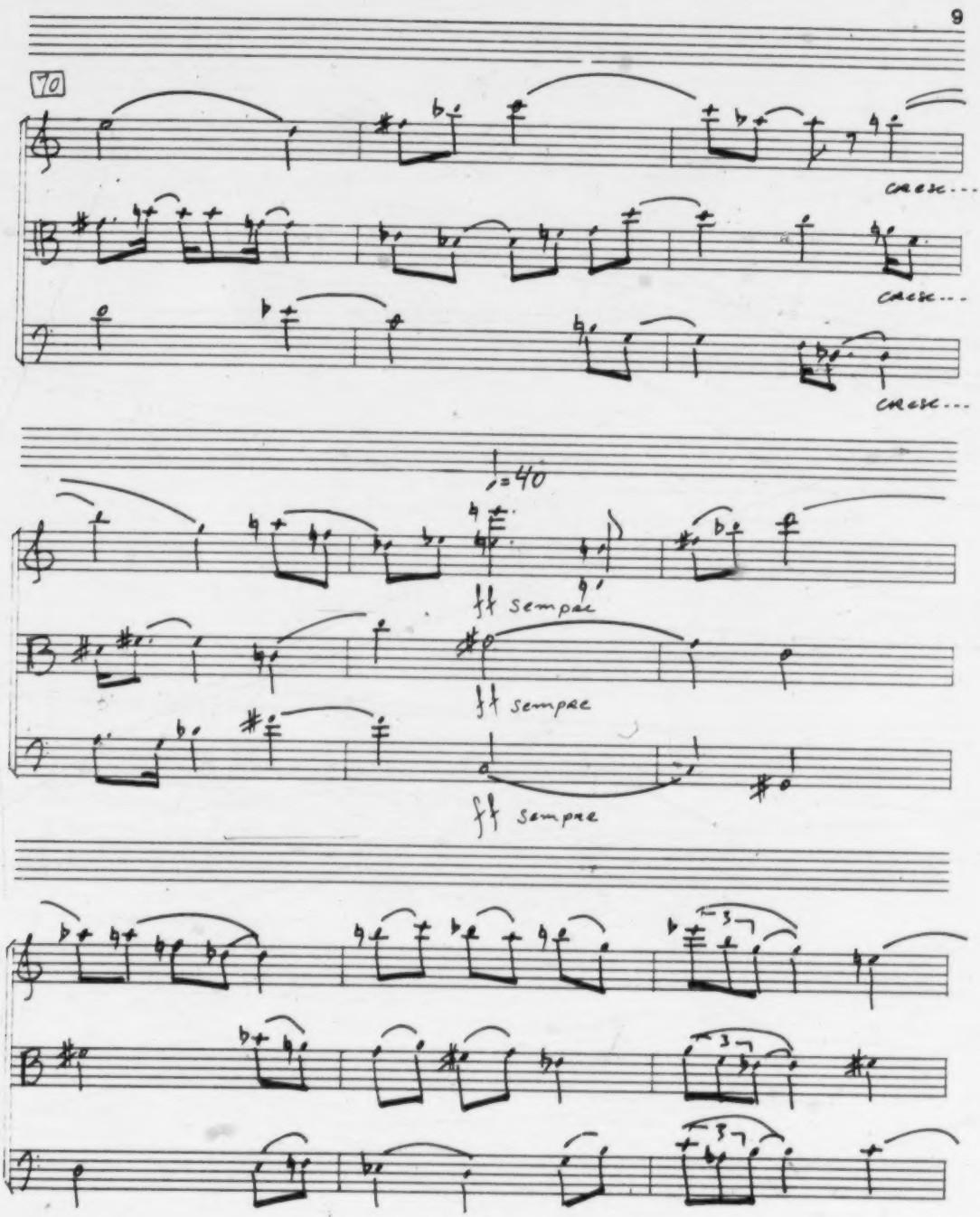

25
accelerando to m 41
at (♩= 60)
sempre
sempre
sempre

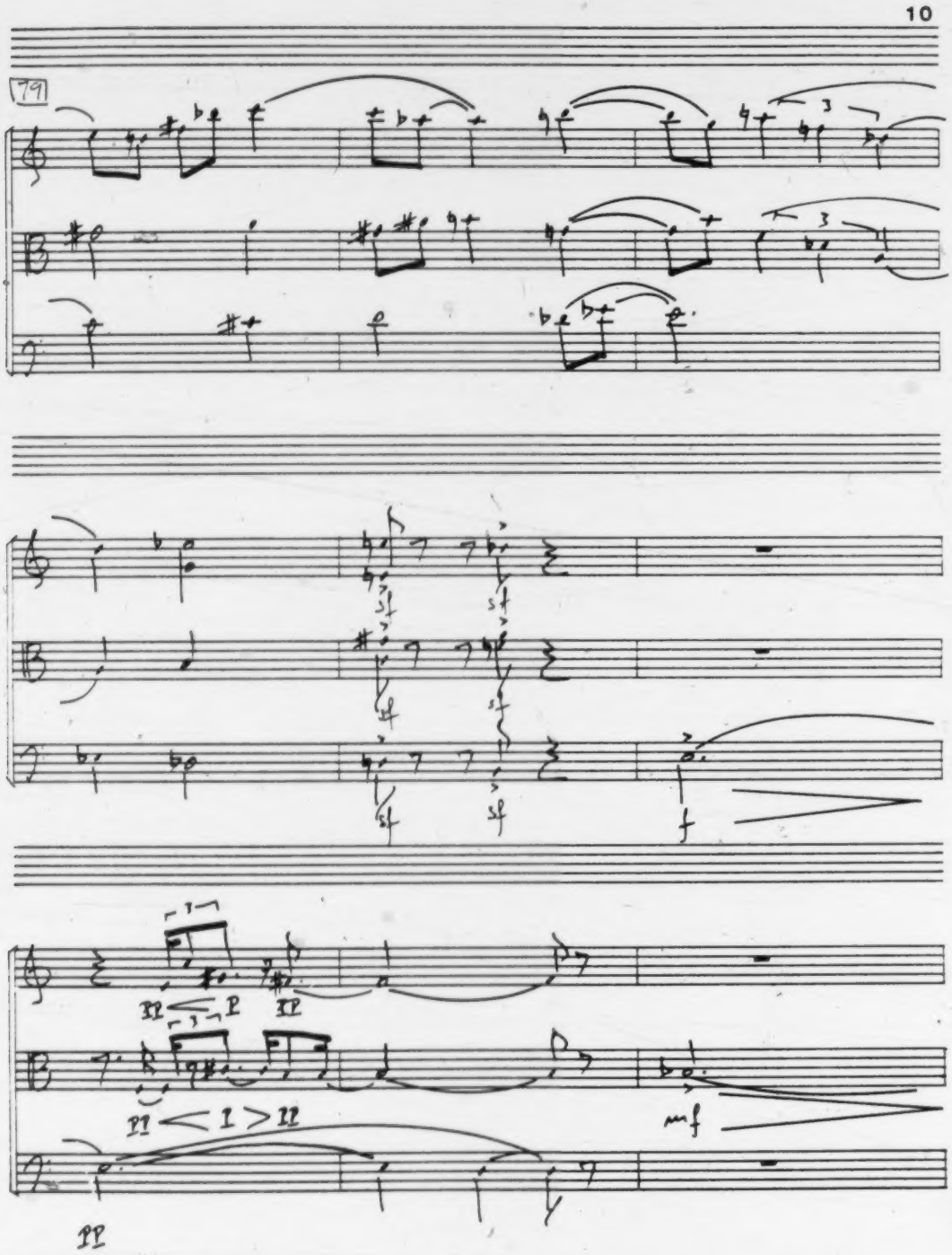

34
(I)
(I)
(I)
♩=60 accelerando to m. 48 at (♩=72)
mp
mp
mp

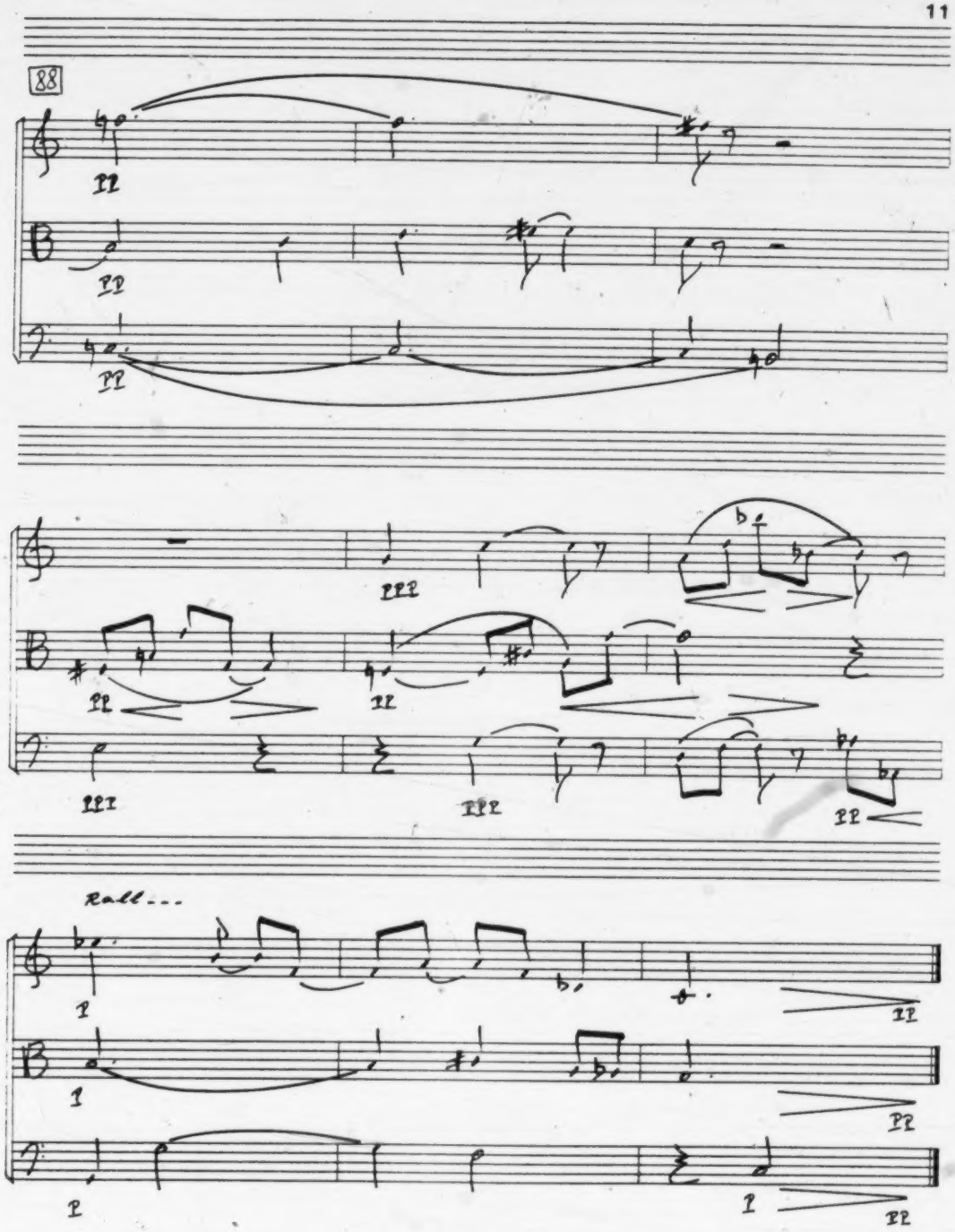

43
mp?
mp?
♩=72 accelerando to m. 64 at (♩=80)
mf sempre
mf sempre
mf sempre

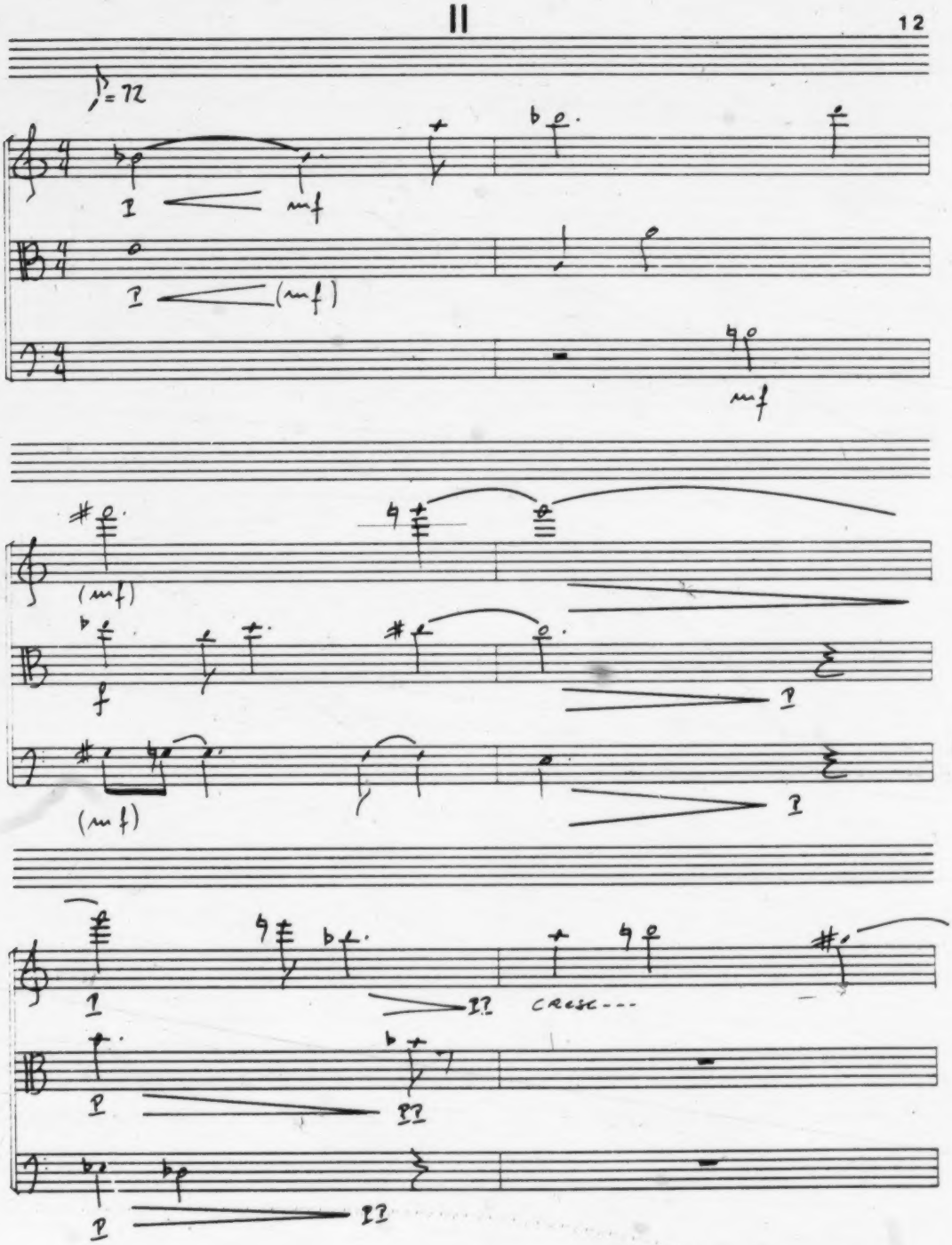

52
(mf)
(mf)
(mf)

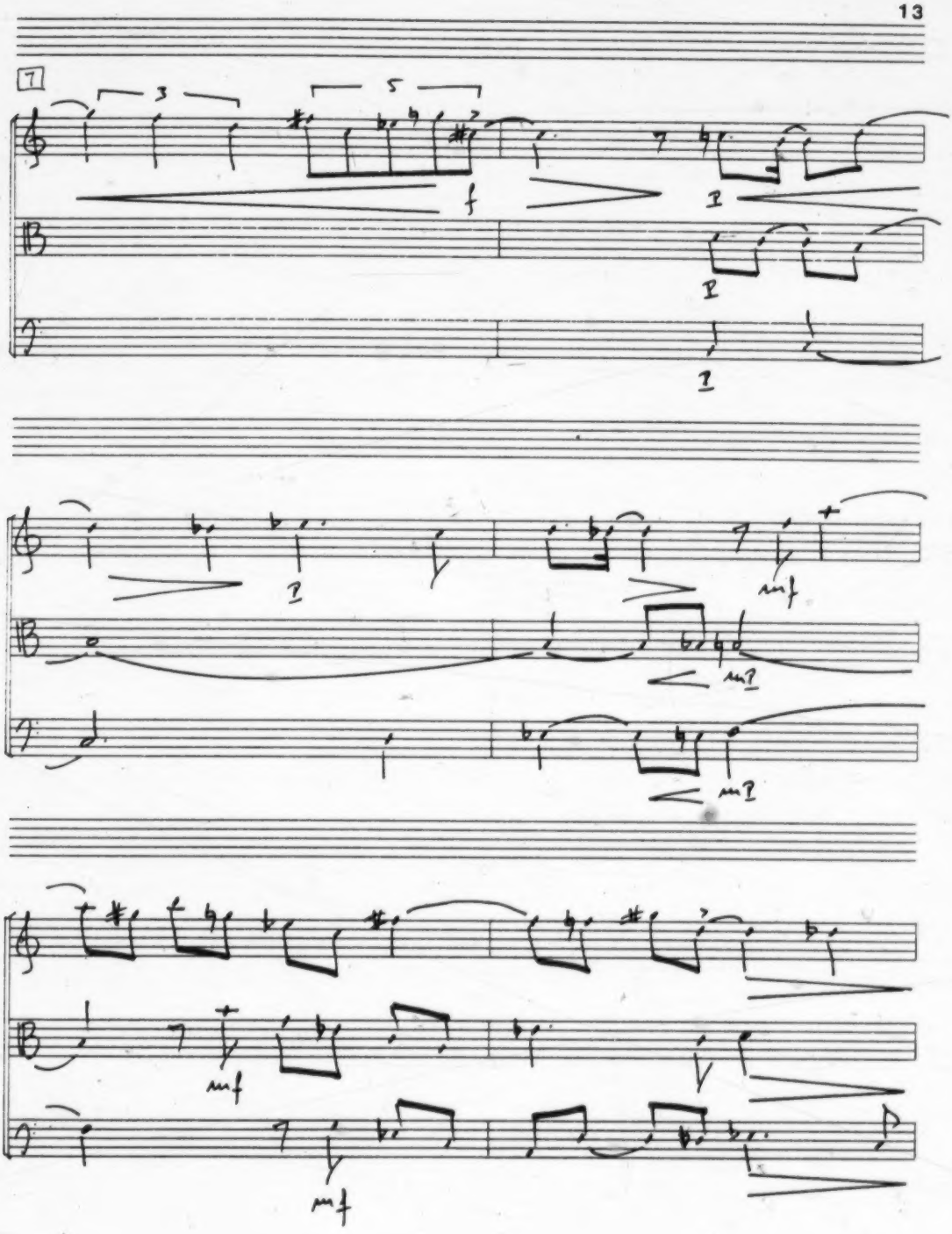

61
mf
(mf)
mf
♩=80
f Sempre
f Sempre
f Sempre

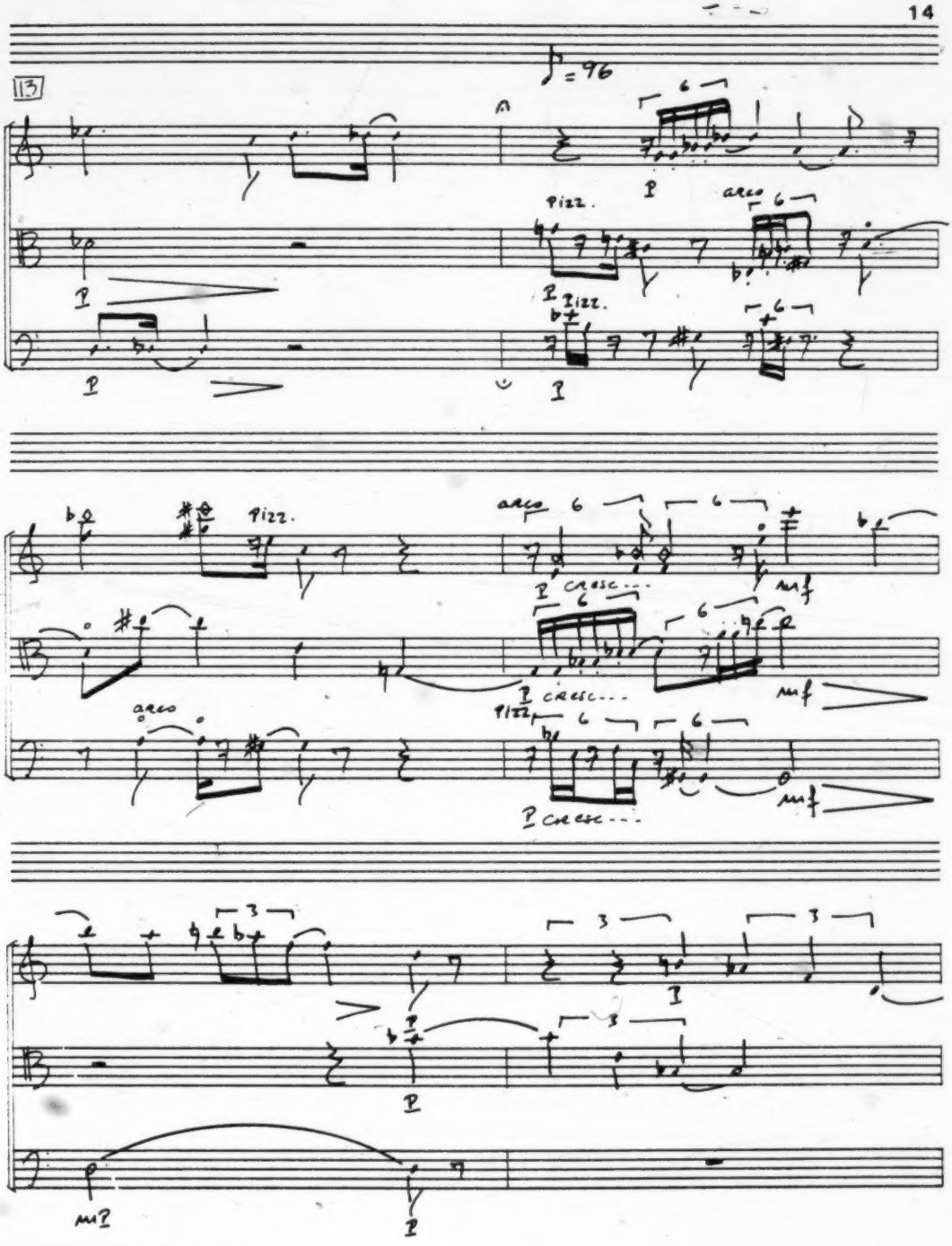

70
cresc...
cresc...
cresc...
♩=40
ff sempre
ff sempre
ff sempre

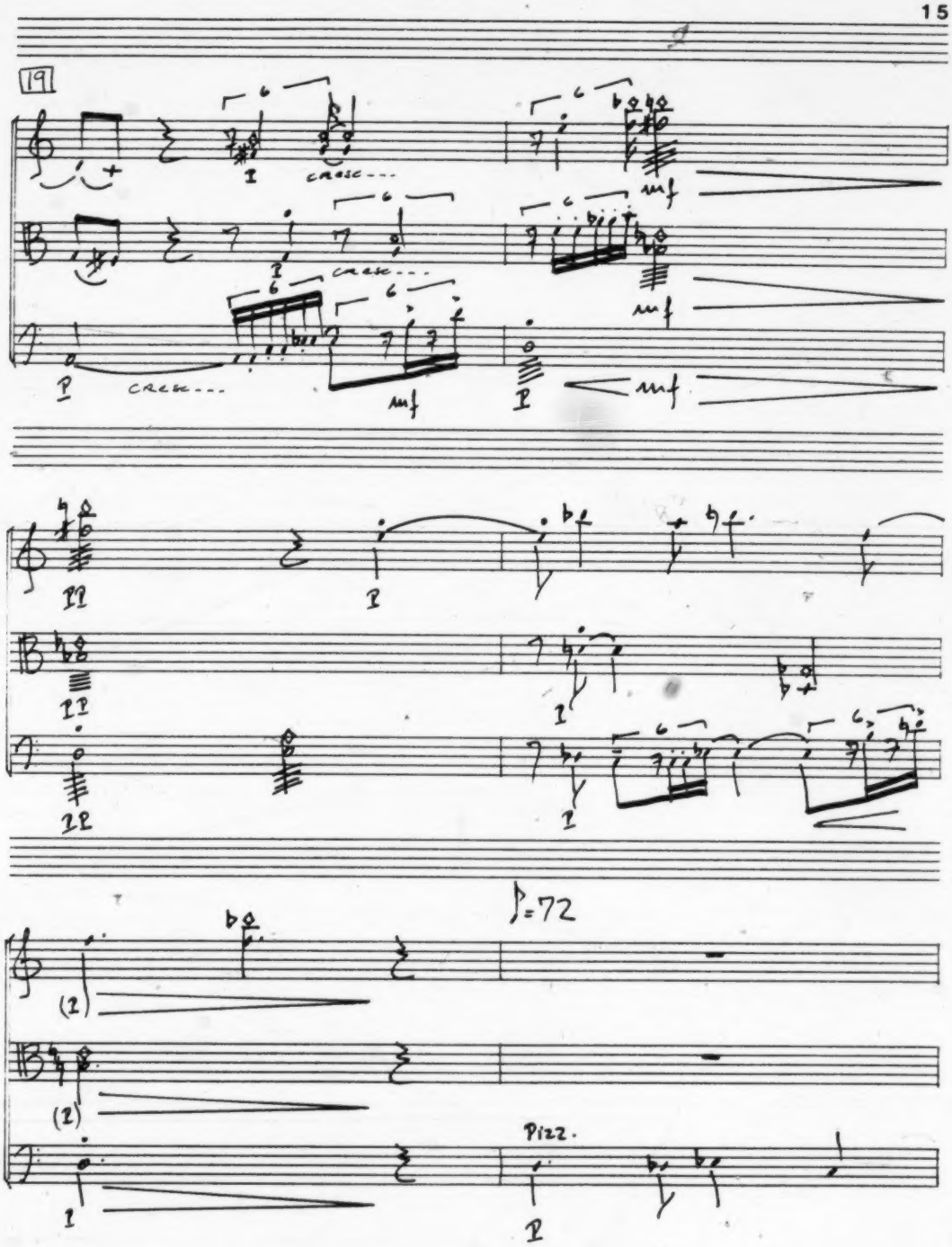

79
sf
sf
sf
sf
sf
sf
f
pp
p
pp
pp
p
pp
mf
pp

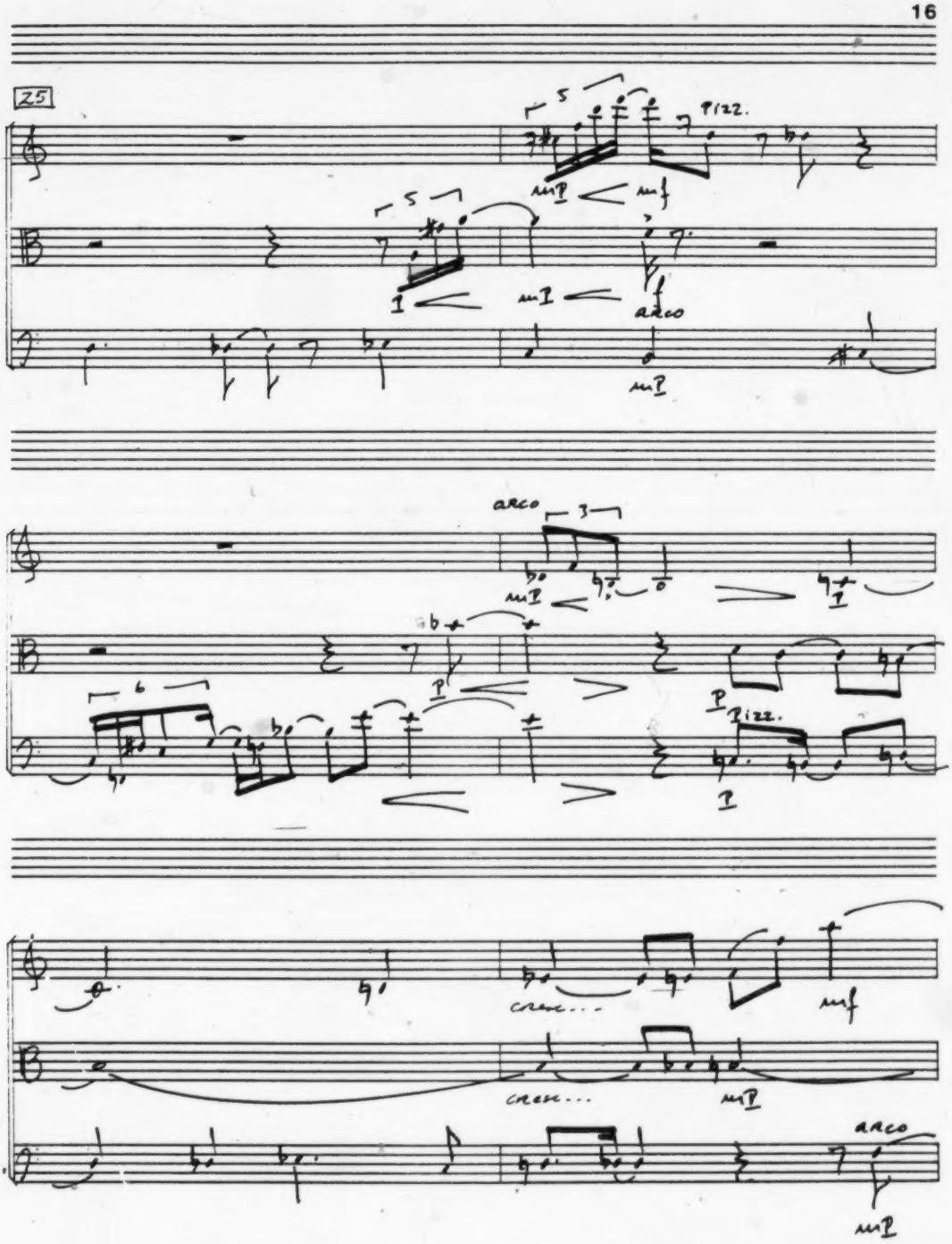

88
rall...

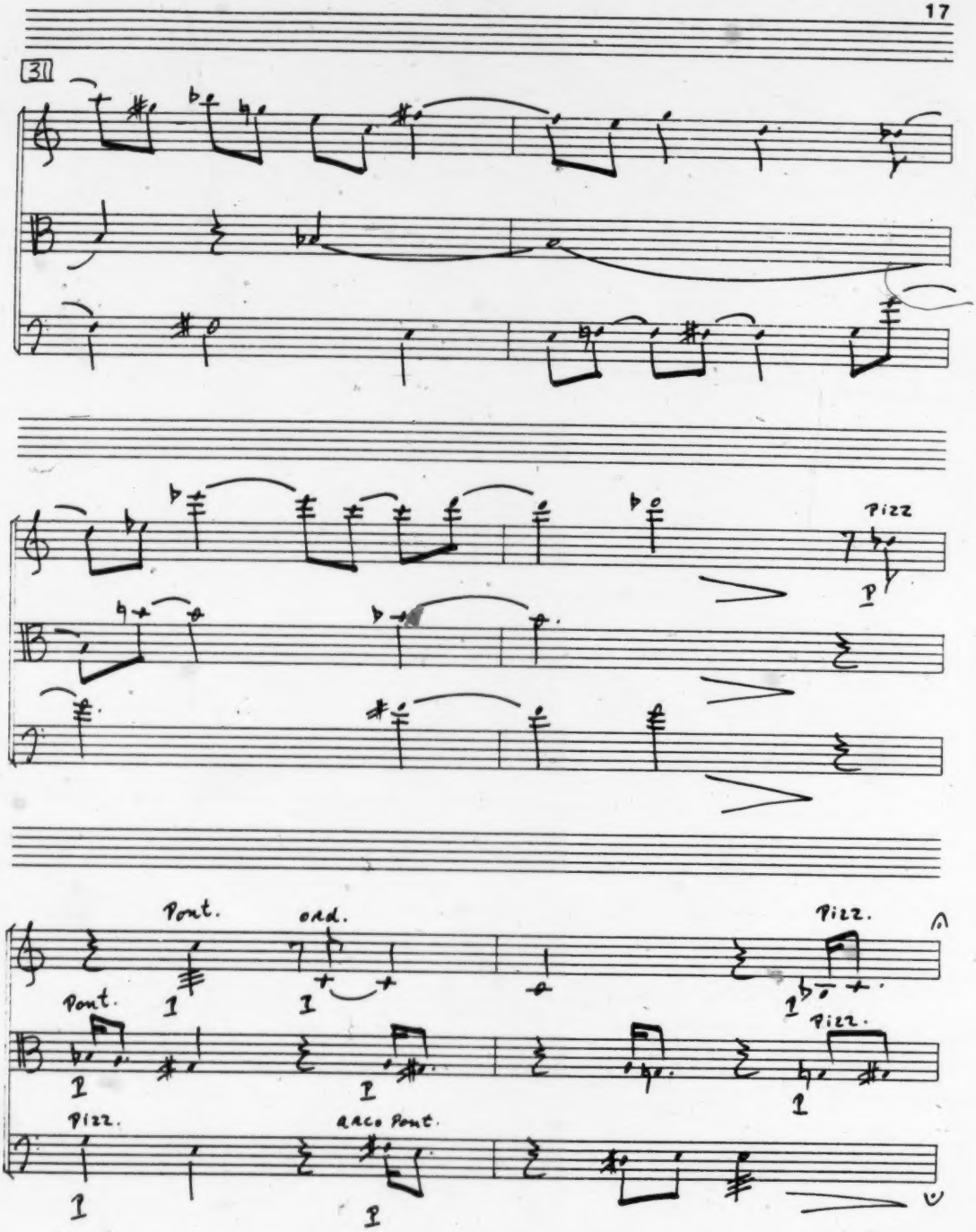

♪ = 72
p
mf
p
(mf)
mf
(mf)
f
p
(mf)
p
p
pp
cresc---
p
pp
p
pp

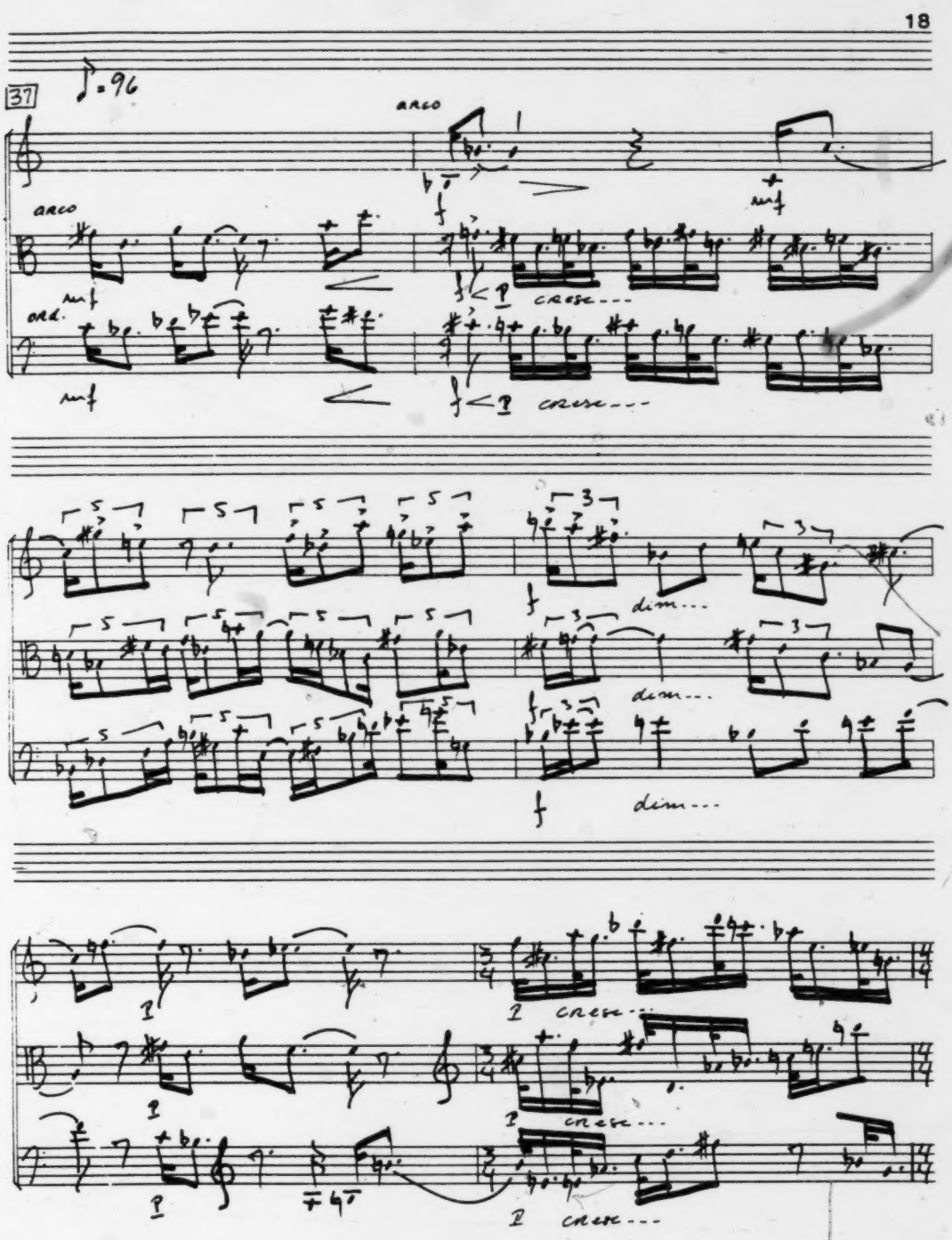

7
3
5
f
I
I
I
I
mf
mf
mf
mf

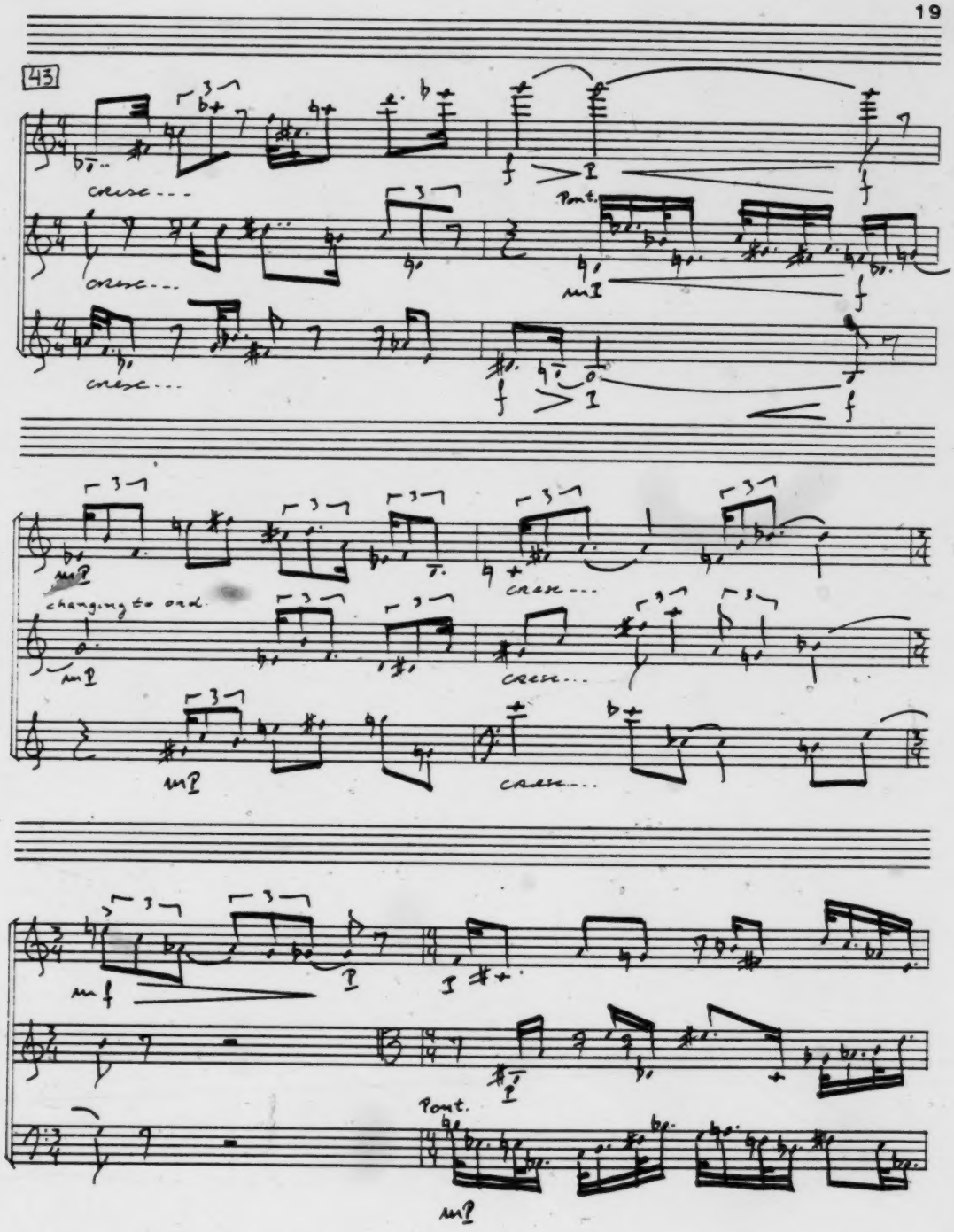

13
♪ = 96
Pizz.
arco
Pizz.
arco
Pizz.
arco
P cresc...
mf
P cresc...
mf
arco
Pizz.
P cresc...
mf
mP
P

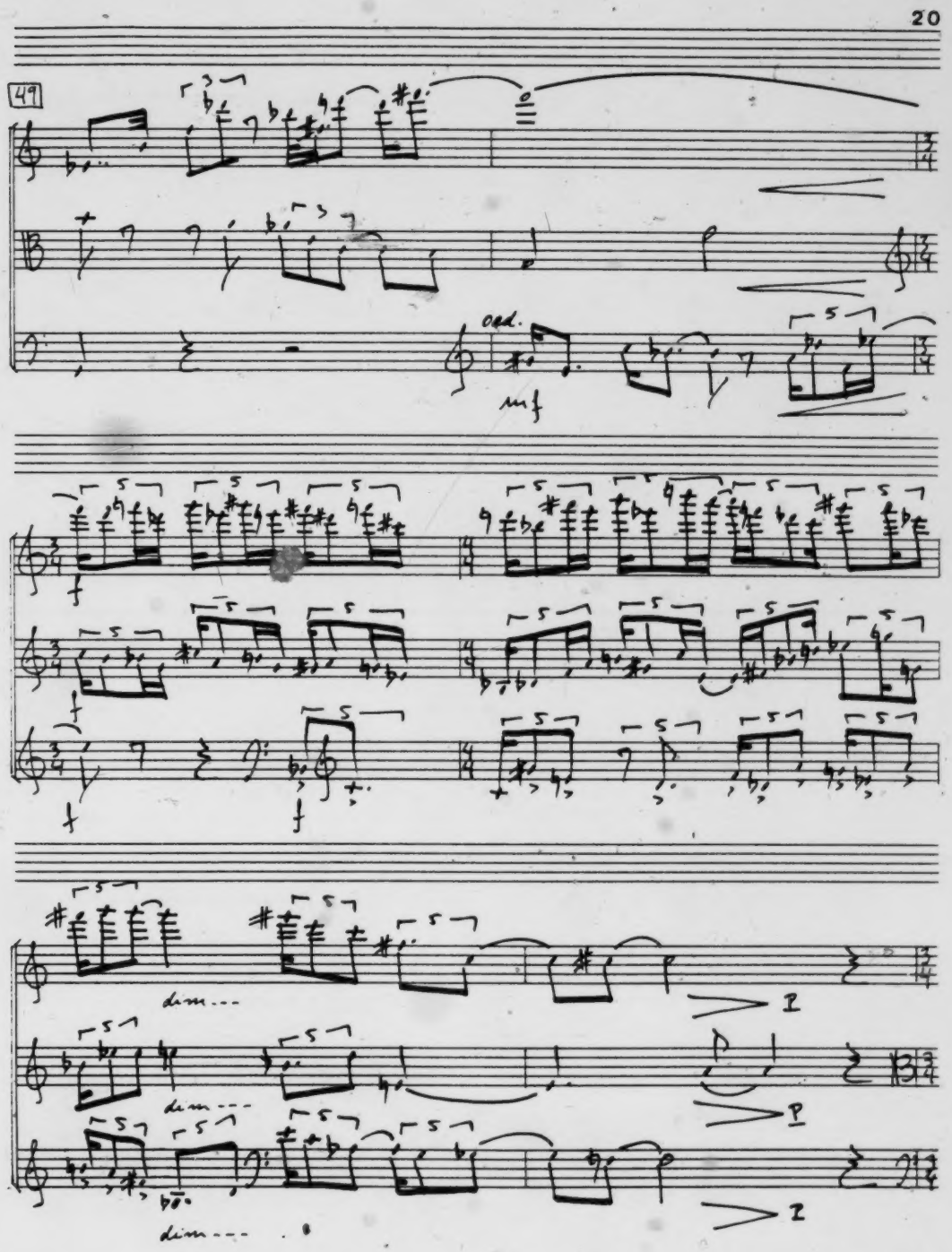

19
cresc...
mf
pp
♪=72
Pizz.

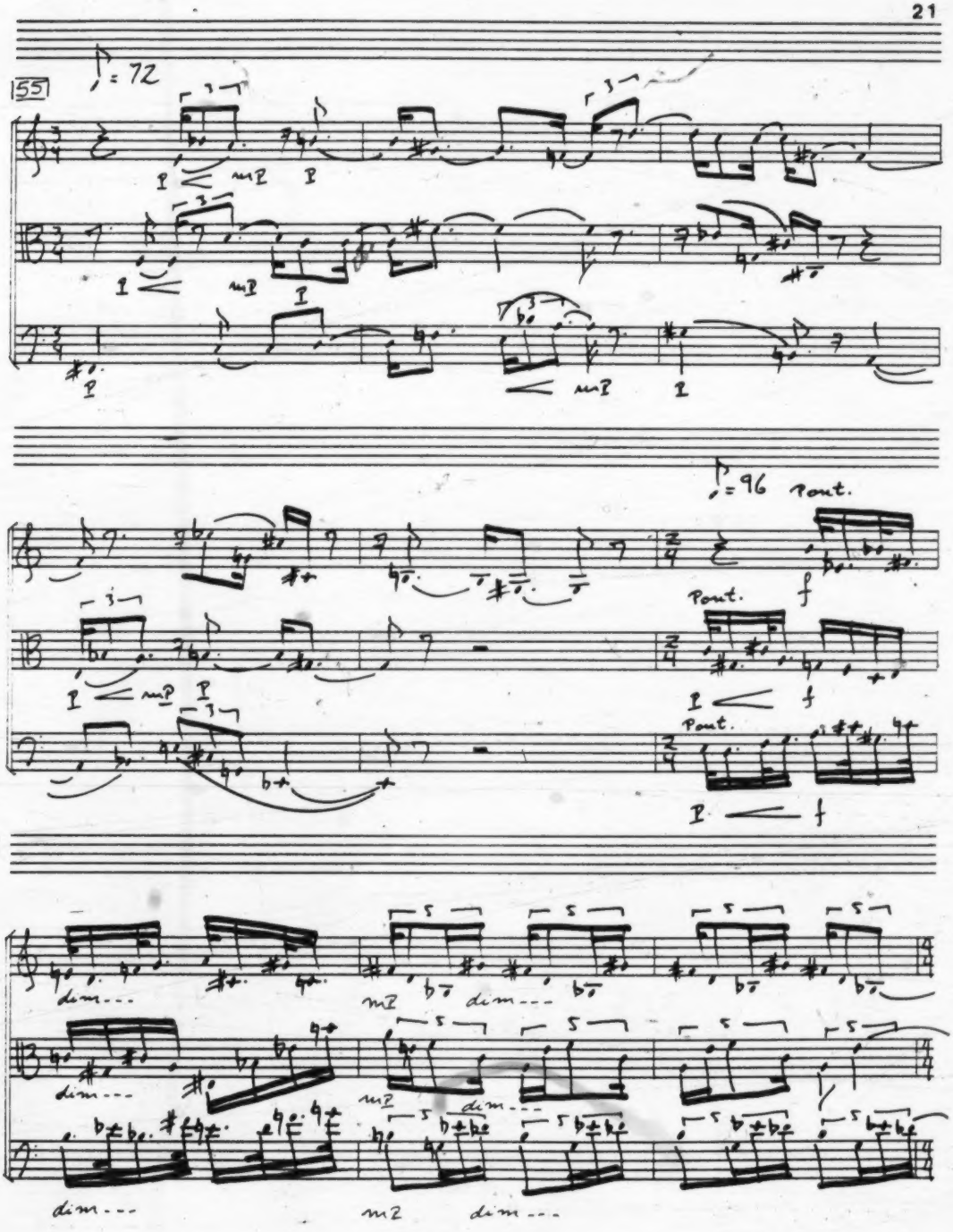

25
pizz.
mp
mf
arco
arco
pizz.
cresc...
cresc...
arco

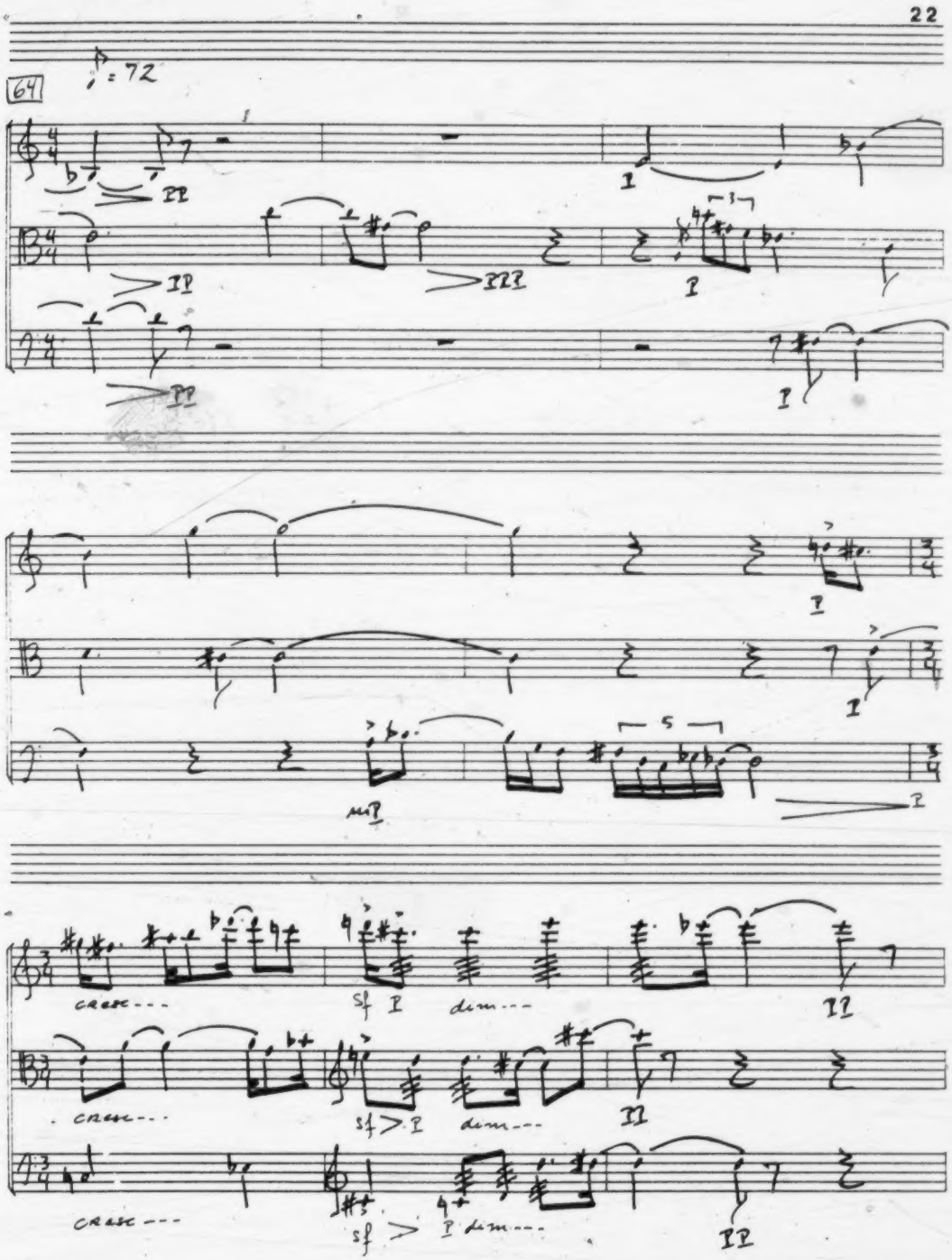

31
Pizz
p
Pont.
ord.
Pizz.
Pont.
Pizz.
Pizz.
arco Pont.

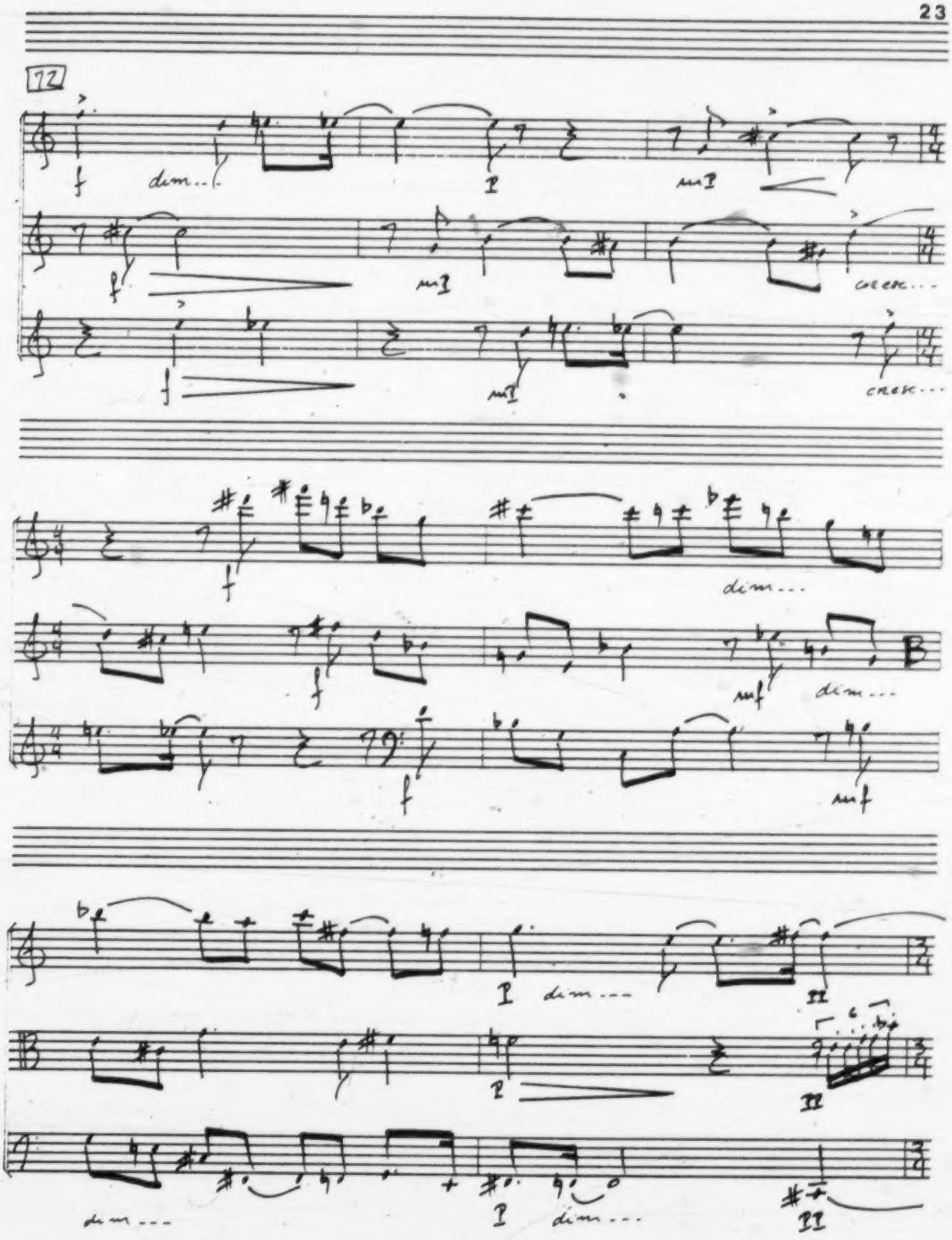

37
♪=96
arco
arco
ord.
mf
f
p
cresc...
dim...
p
cresc...

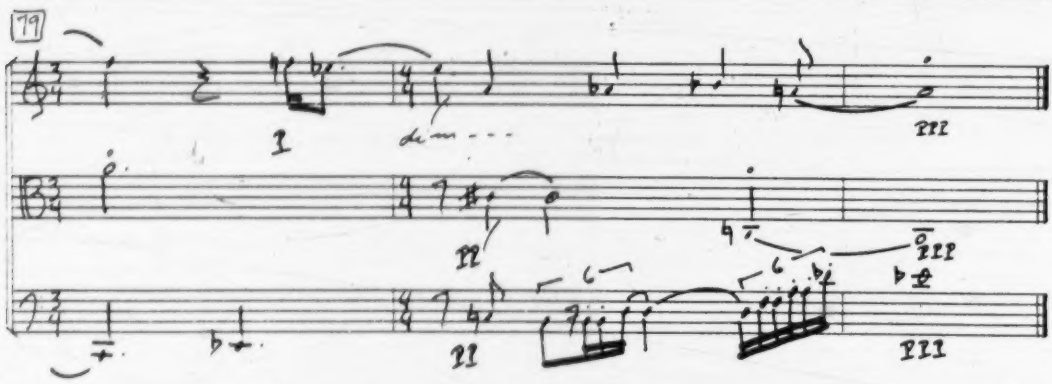

43
cresc...
cresc...
cresc...
Pont.
changing to ord.
cresc...
cresc...
cresc...
Pont.


49
ped.
mf
f
f
f
dim...
dim...
dim...
p


55
♪ = 72
♪ = 96
Pont.
dim...

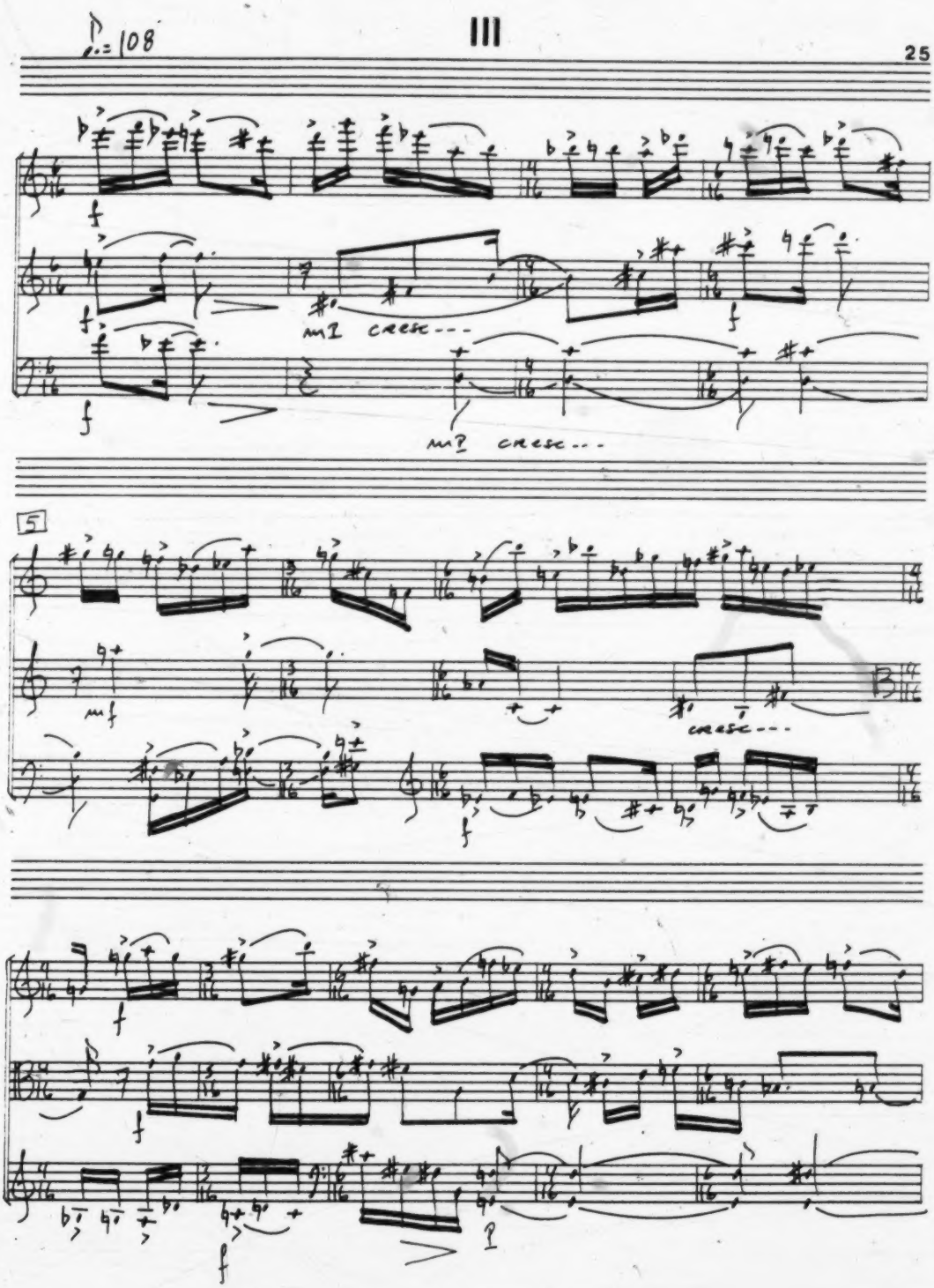

64
♪ = 72
PP
PP
PPP
PP
P
P
P
P
P
mP
P
cresc---
sf P
dim---
PP
cresc---
sf > P
dim---
PP
cresc---
sf > P dim---
PP

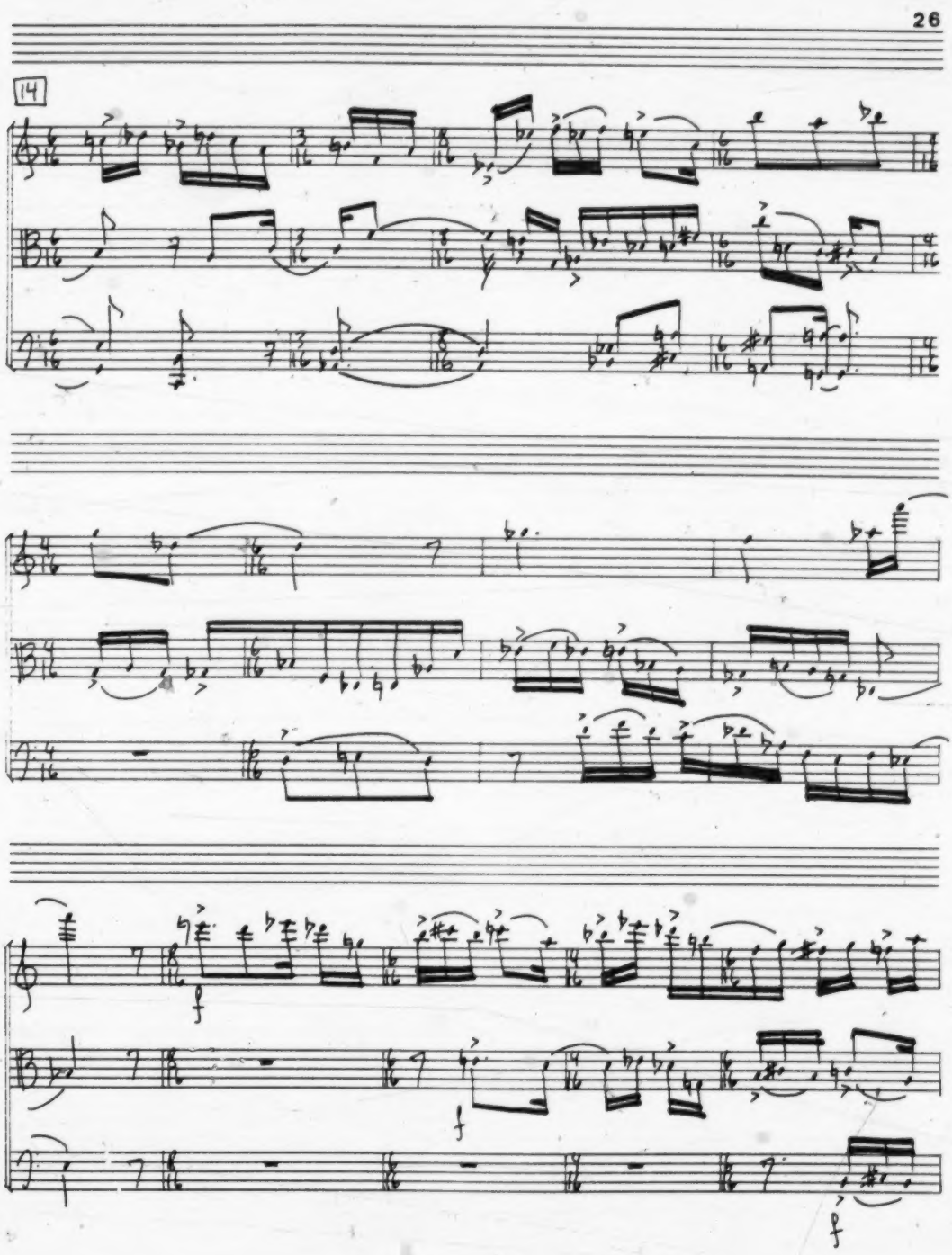

72
dim...
cresc...
dim...
dim...
dim...
dim...
dim...

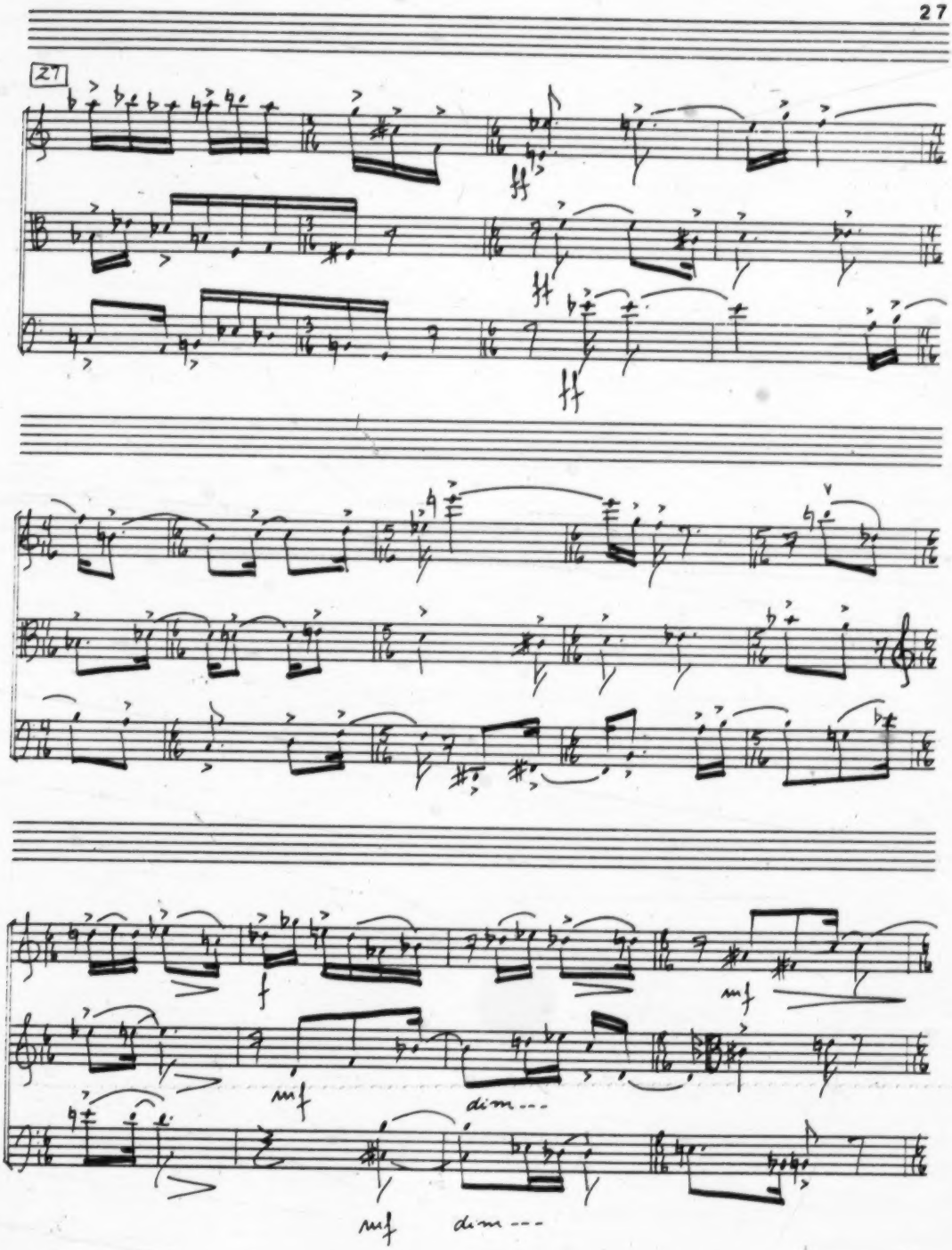

79
1
dim.
III
II
III
II
III

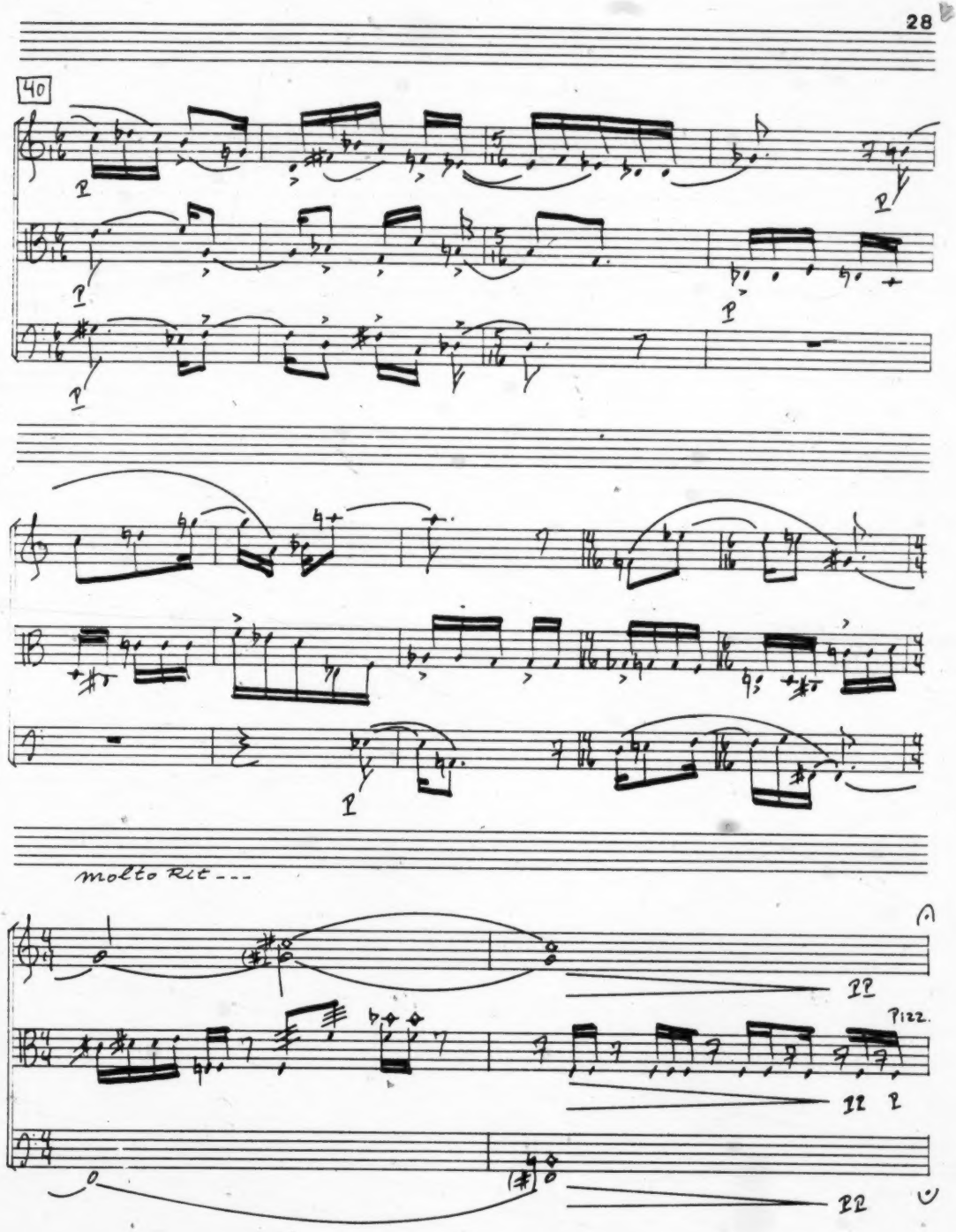
♩. = 108

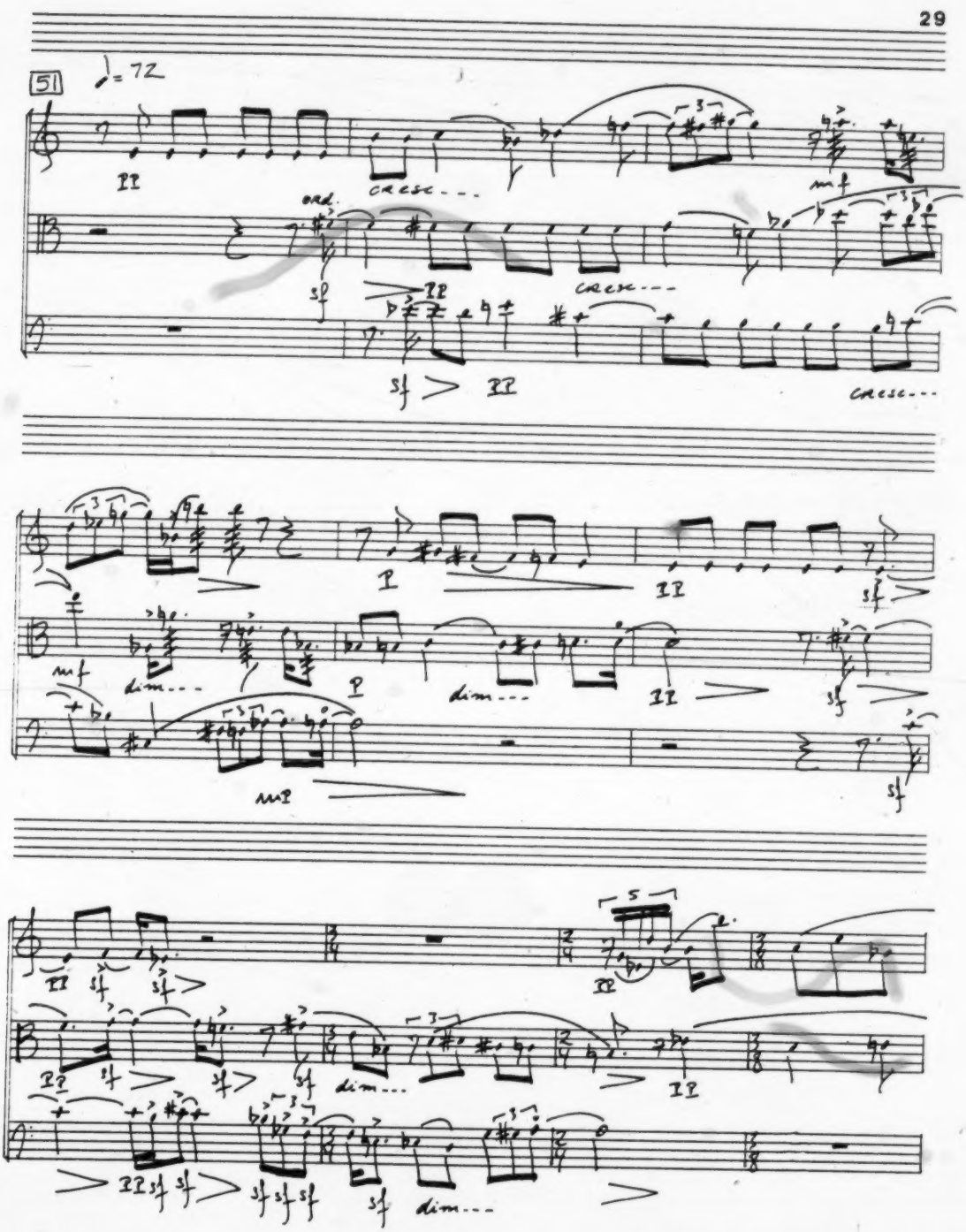
III

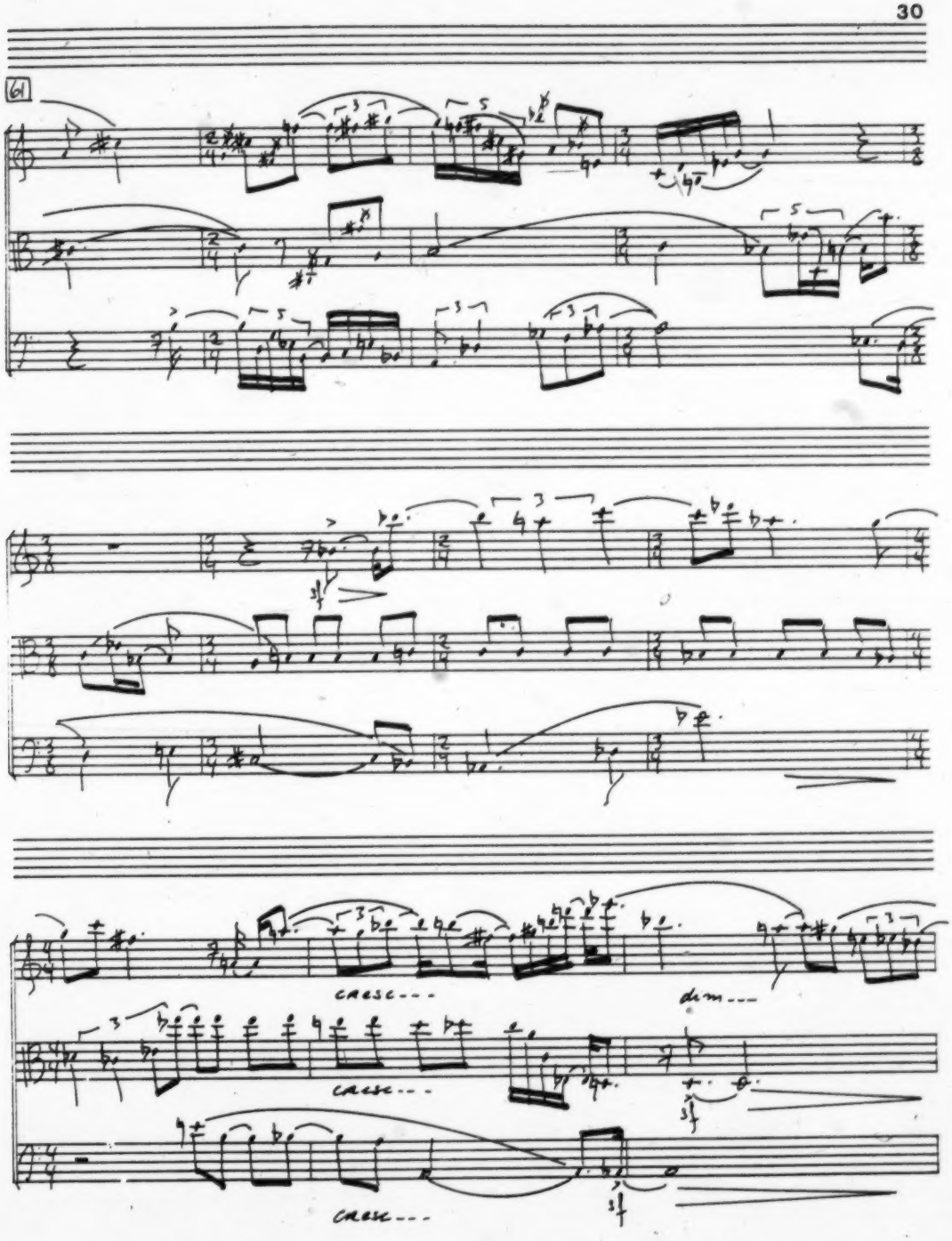


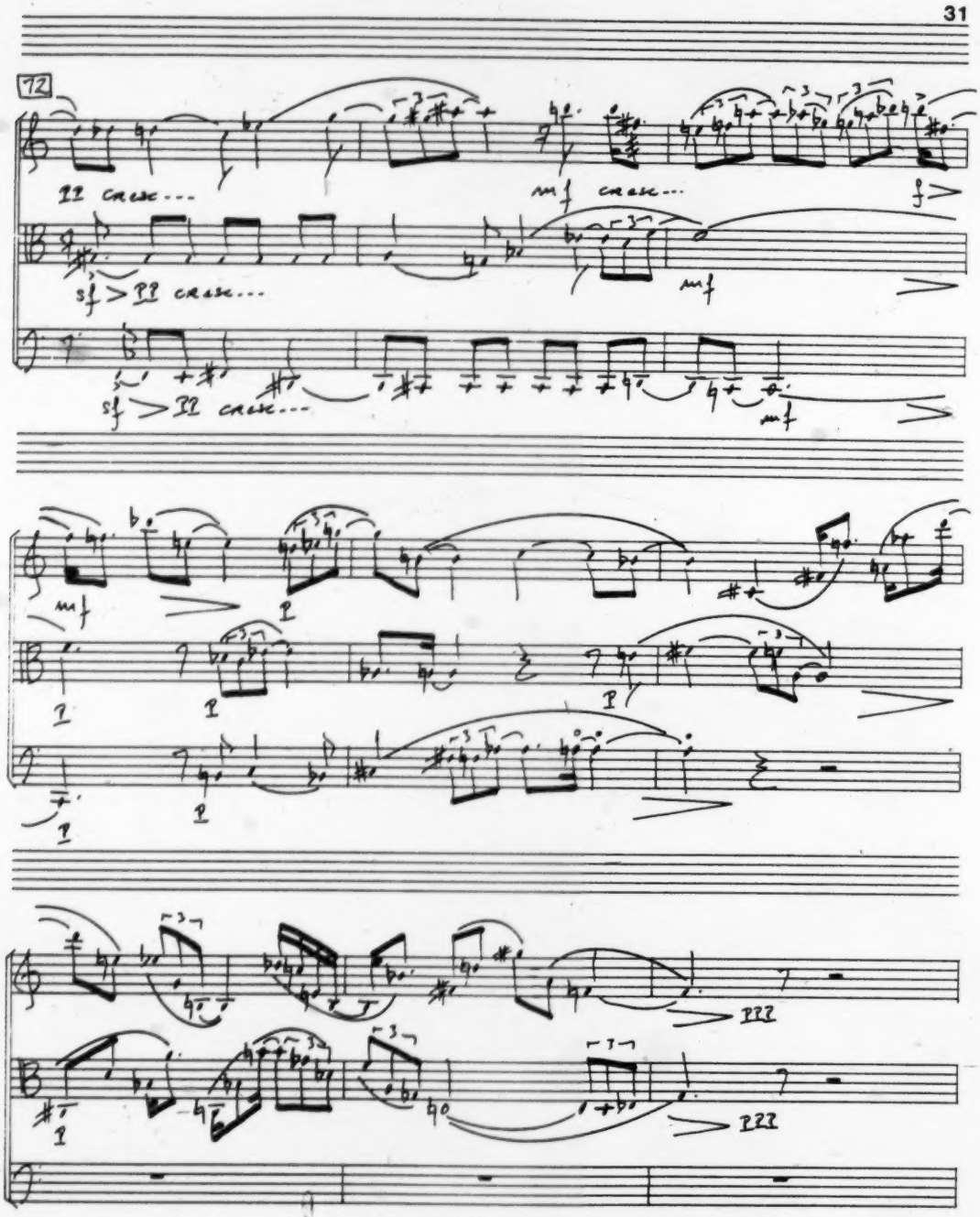

14
f
f
f

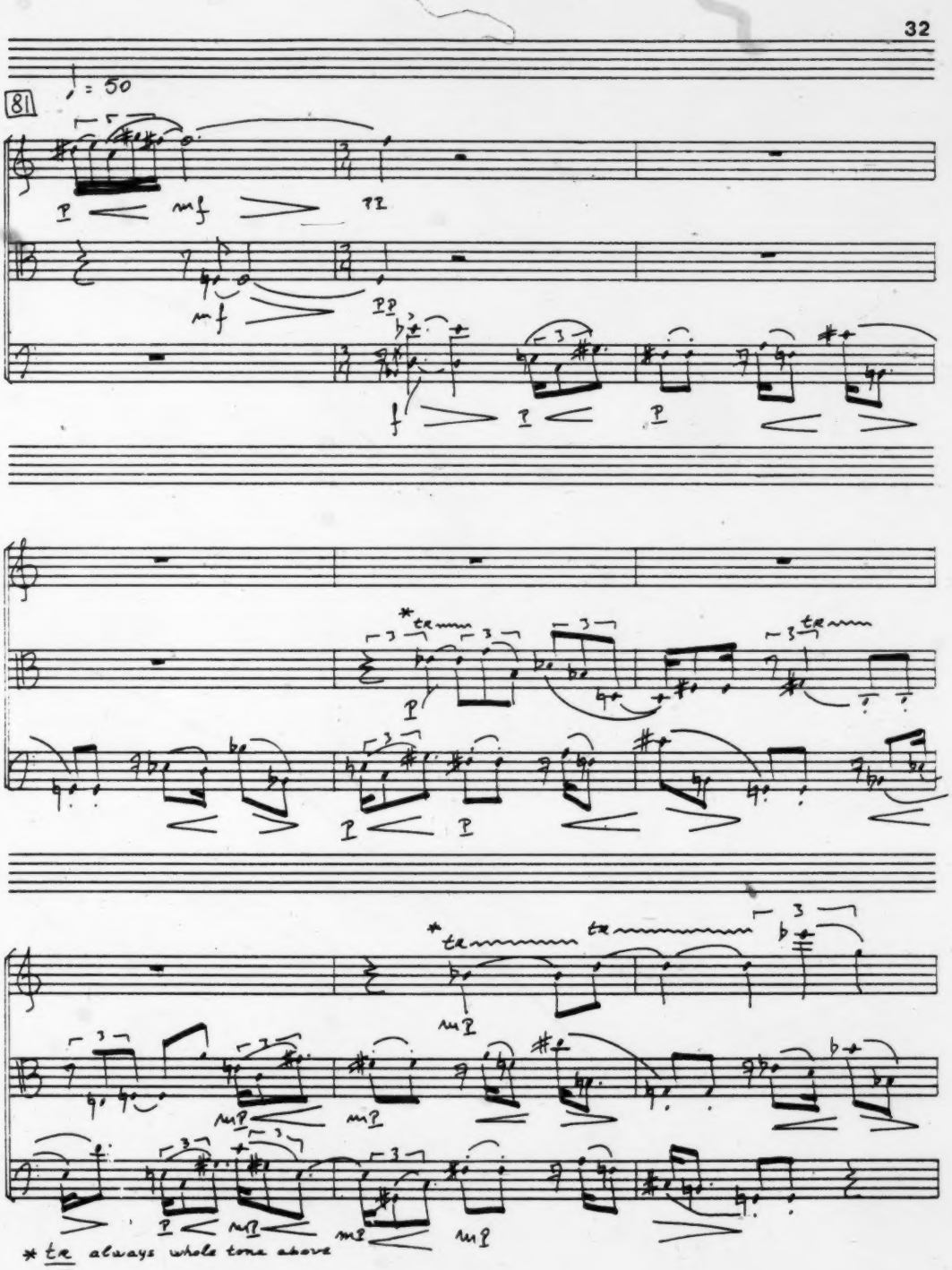

27
ff
ff
ff
f
mf
mf
dim---
mf
dim---


40
molto Rit---
Pizz.

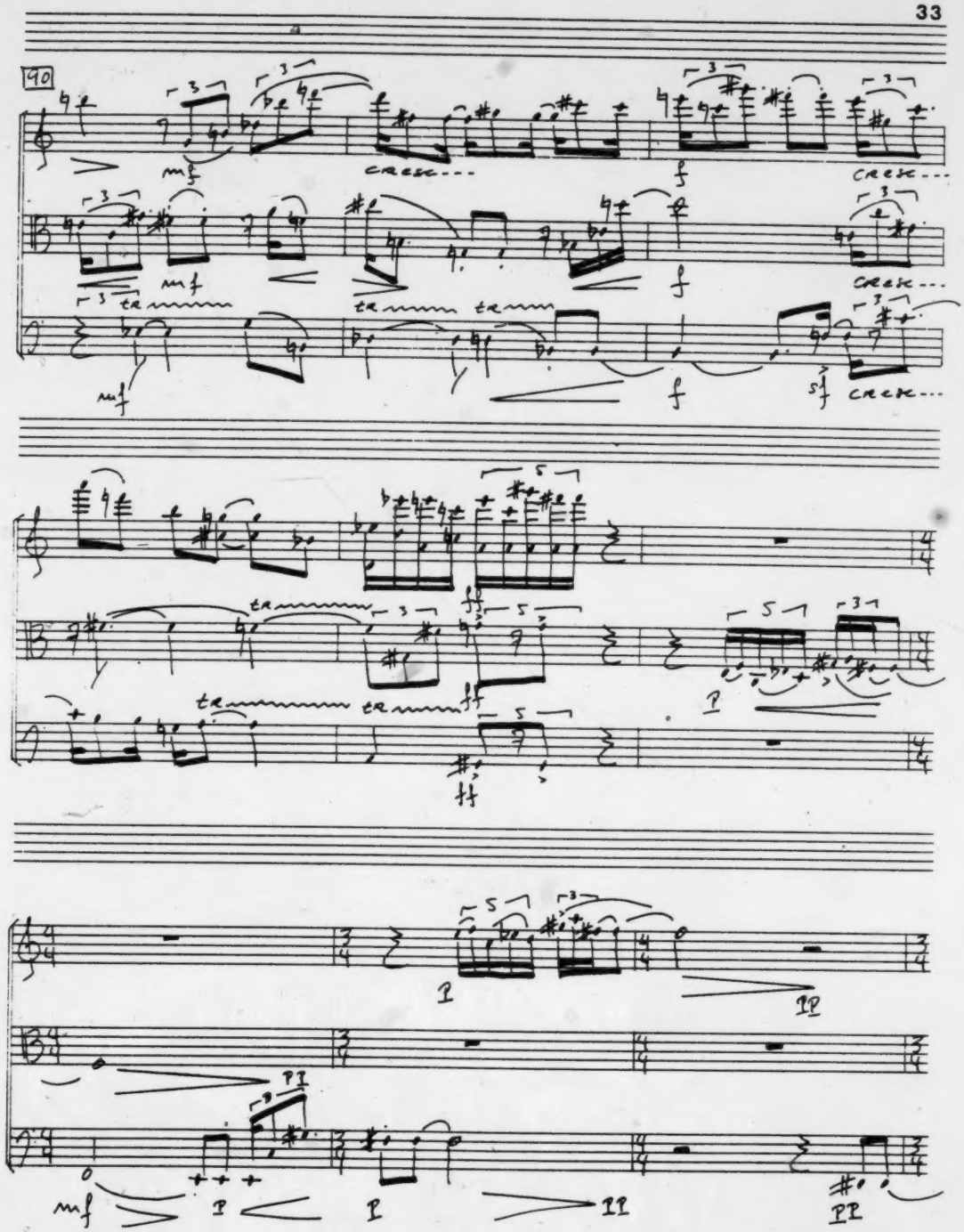

51
♩= 72
ord.
cresc...
mf
sf
dim...
mp

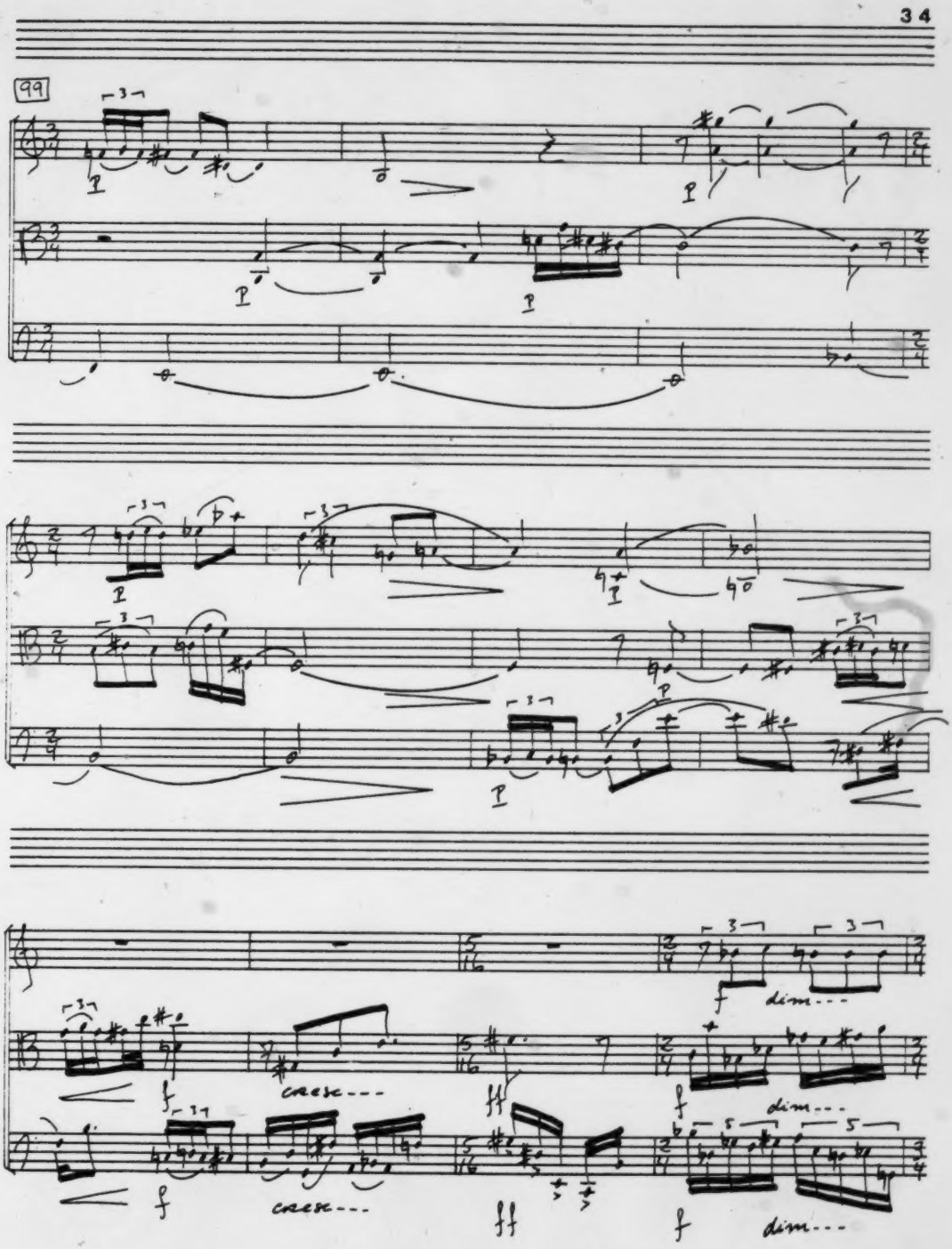

61
cresc---
dim---
cresc---
cresc---

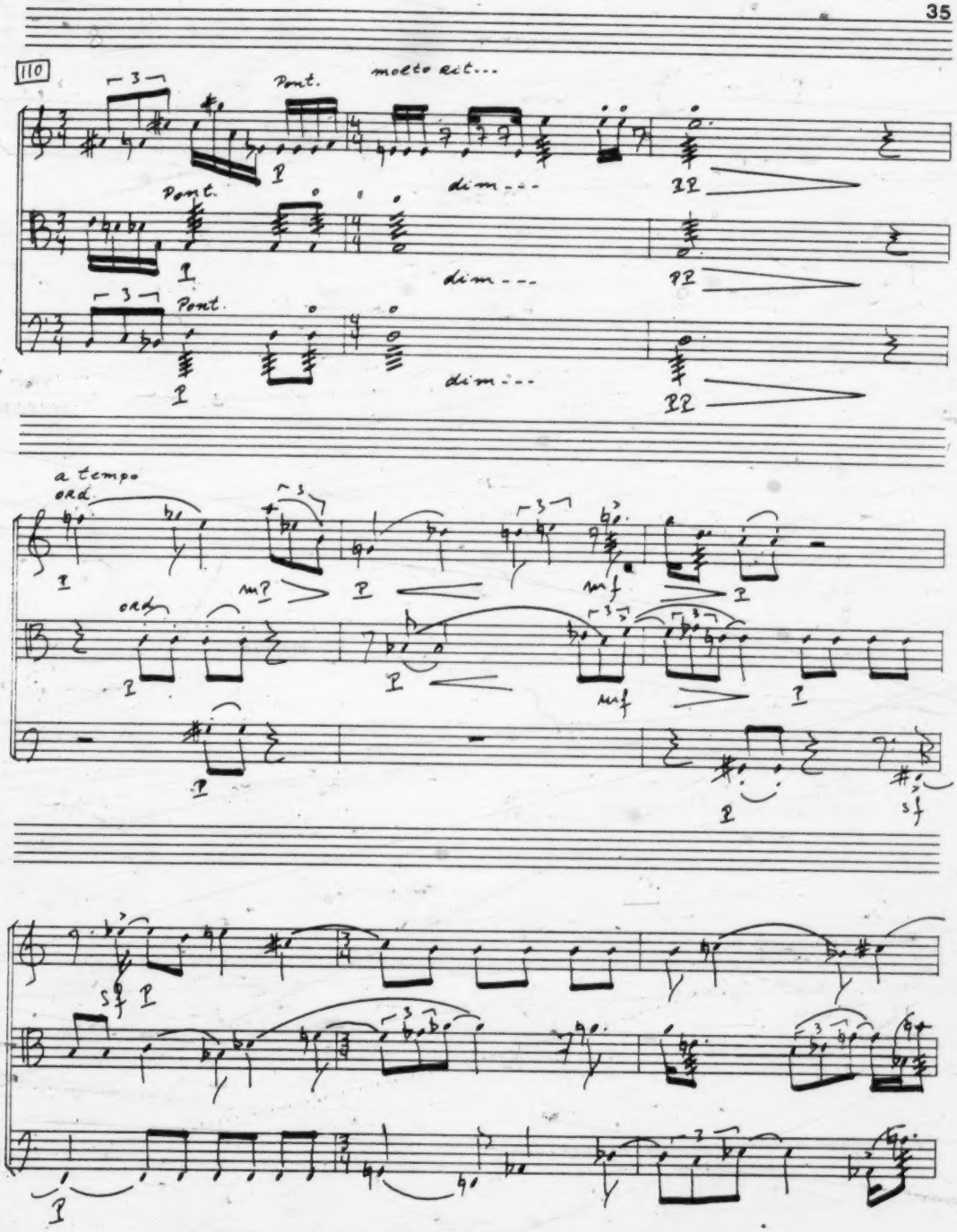

72
pp cresc...
mf cresc...
f
sf > pp cresc...
mf
sf > pp cresc...
mf
mf
ppp
ppp

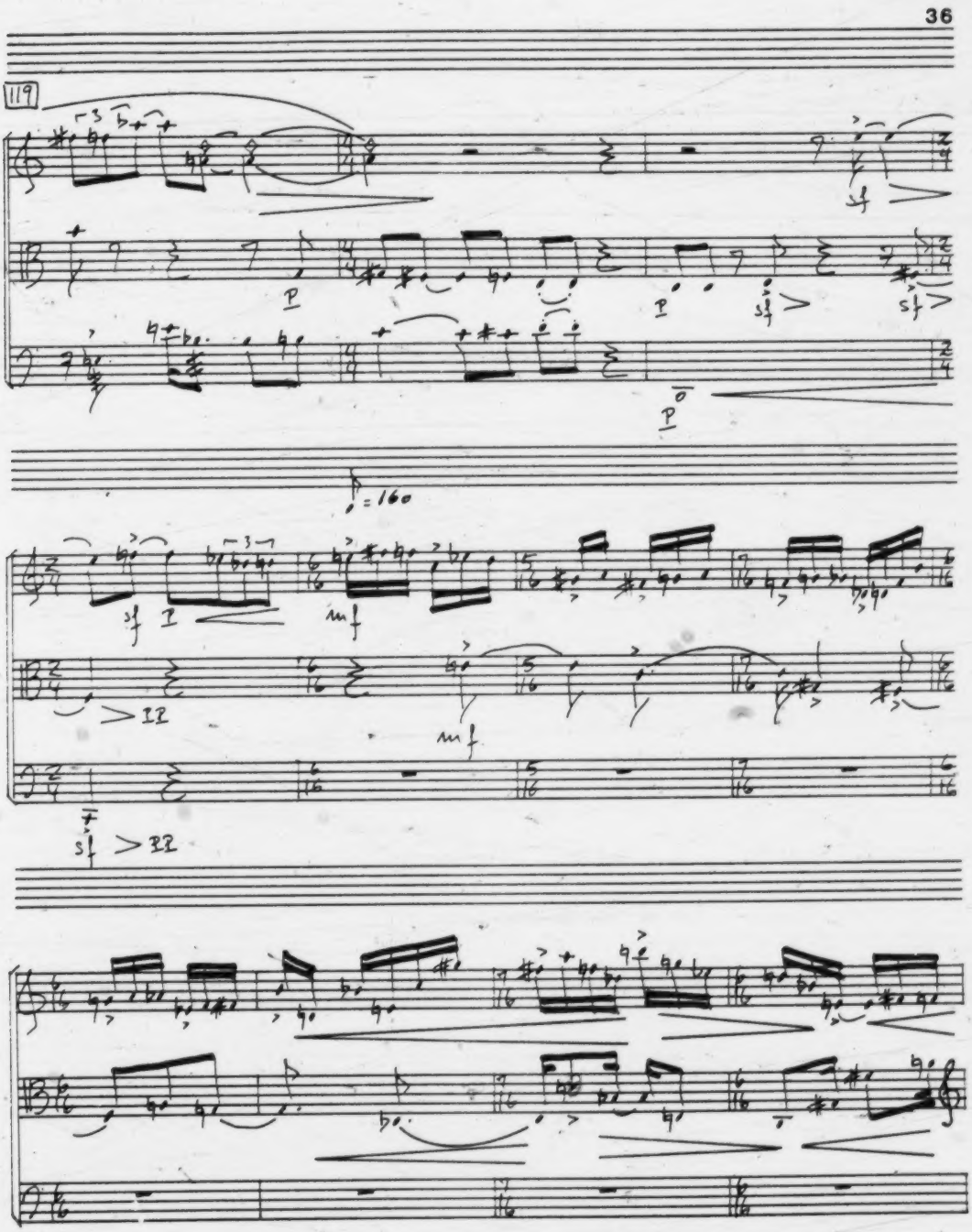


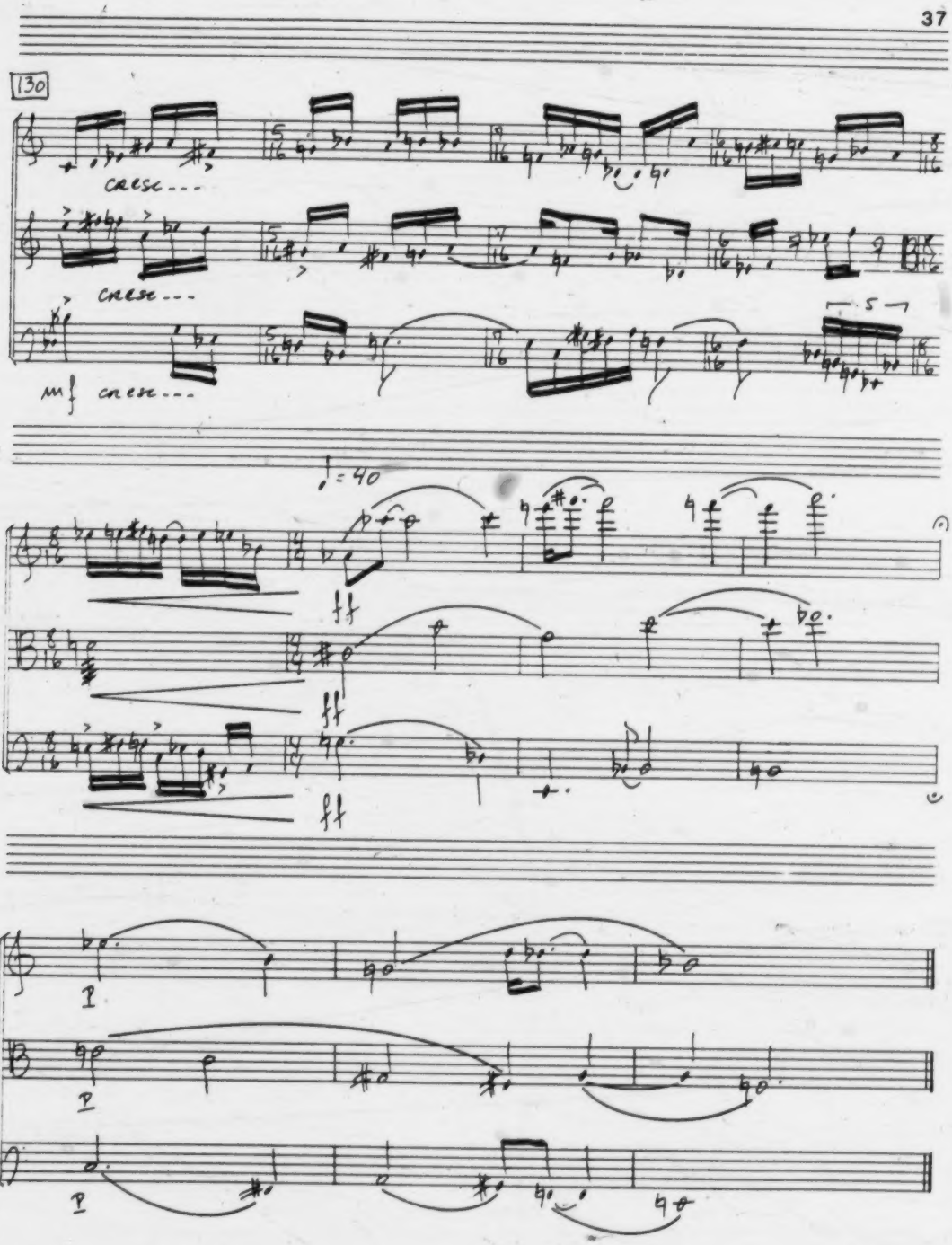
* tr always whole tone above


90
mf
cresc...
f
tr
sf
I
II


99
cresc---
dim---
cresc---
dim---
dim---


110
Pont.
molto rit...
dim...
pp
ord.
a tempo
mf
sf


119
sf
p
p
sf
sf
p
♩=160
sf
I
mf
II
mf
sf
II


130
cresc...
cresc...
mf cresc...
5
♩=40
p
ff
ff
ff
p
p
p

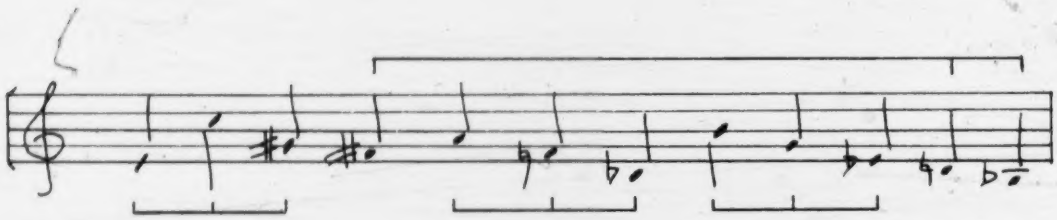
ANALYSIS

FIRST MOVEMENT

The first movement of the String Trio has a duration of approximately six minutes. It consists of an introduction (mm. 1-13), a central section (mm. 14-85) in which an "ostinato theme" is the main feature of the movement, and a coda (mm. 85-96).

A 12-tone row is used throughout the movement and treated as a source of melodic material. The row is made up of augmented triads, shown by brackets in Figure 1.

Figure 1. Row 1.



The introduction presents a foreshadowing of the row in a rather simple musical context as a preparation for the main section. Two augmented triads with an added note, set

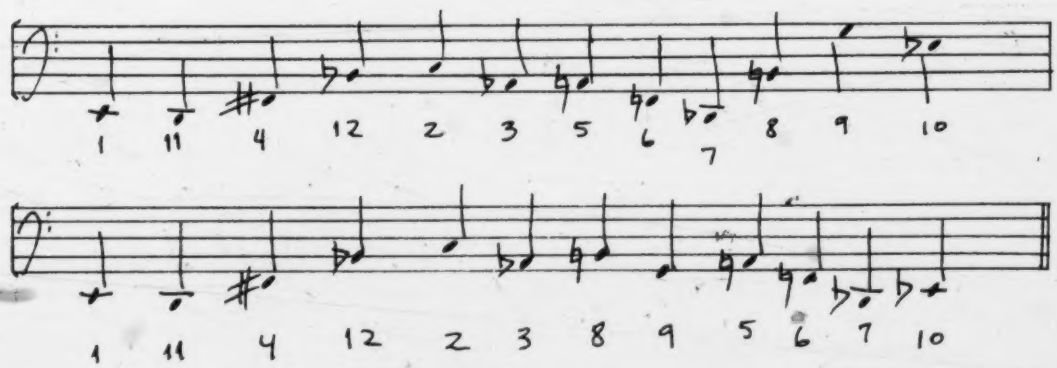
type [0, 2, 4, 8], constitute the very opening (mm. 1-4). Figure 2 illustrates the binary structure of the introduction.

Figure 2. Formal structure of the introduction.

Introductory chords	A	B	
[mm. 1-4]	[mm. 5-8]	[mm. 9-10;	11-13] Coda

The central section of the first movement has as its basis an "ostinato theme," and introduces a serialization of rhythmic elements. Structurally, this section, in traditional terms, is a "modified passacaglia." The ostinato theme is created by reordering the pitches of Row 1, as illustrated in Figure 3.

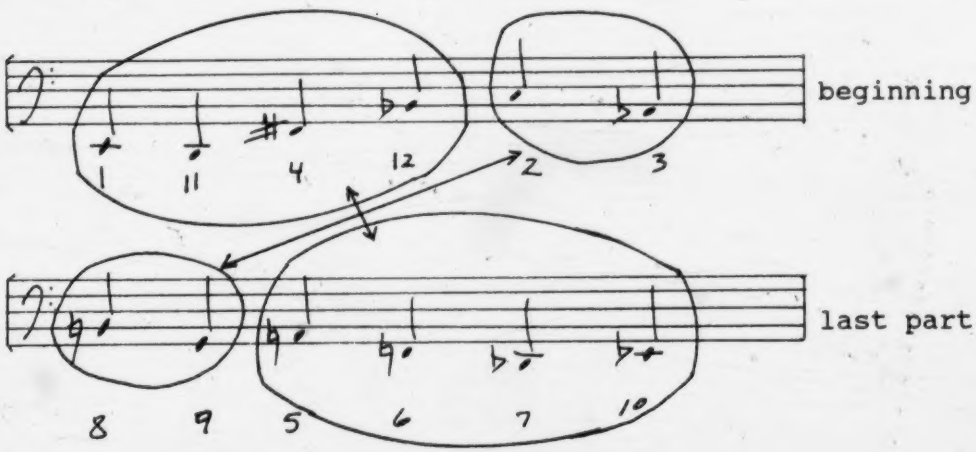
Figure 3. Pitch order in the "ostinato theme."



The "ostinato theme" is binary in form, comprising two row statements, each beginning in the same way. Several different procedures are used to form the "ostinato theme" from the original row:

1. Figure 4 shows how exchange of pitch order by free permutation is used to create a retrogression between the first and last six notes of the "ostinato theme."

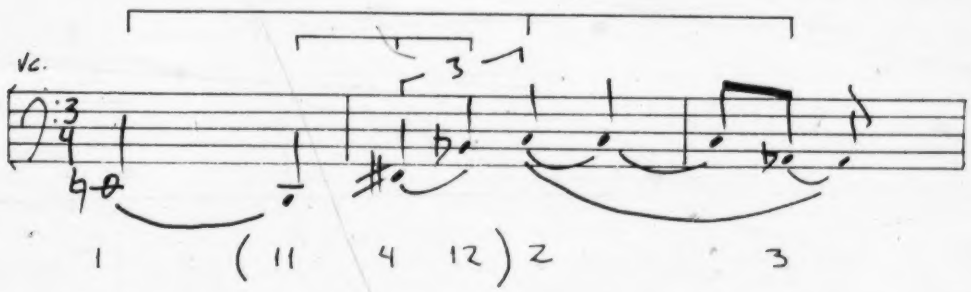
Figure 4. Retrogression in the ostinato.



2. Another feature of this free permutation is the rearrangement of the augmented triads such that they can be heard as an ornamented variation of the original row. The augmented triad E C G# in Example 1 appears to be ornamented by a second augmented triad D F# Bb, in shorter notes, functioning as its neighbor. Here, as

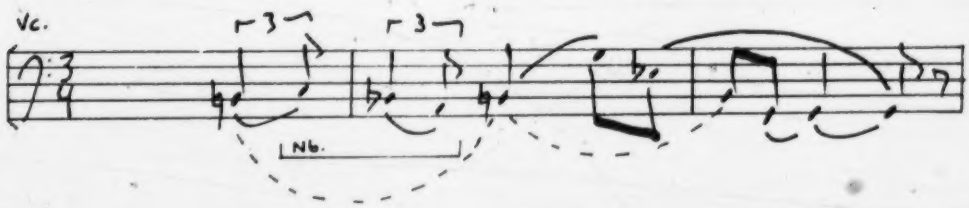
far as the melodic aspect is concerned, embellishment is understood as the insertion of structurally less important notes.

Example 1. Ornamentation of the Row (mm. 36-38).



3. Example 2 shows another elaboration in the ostinato. B is understood to be prolonged through repetition and neighboring tones. In this way the "ostinato theme" is similar to Row 1, yet more fully developed.

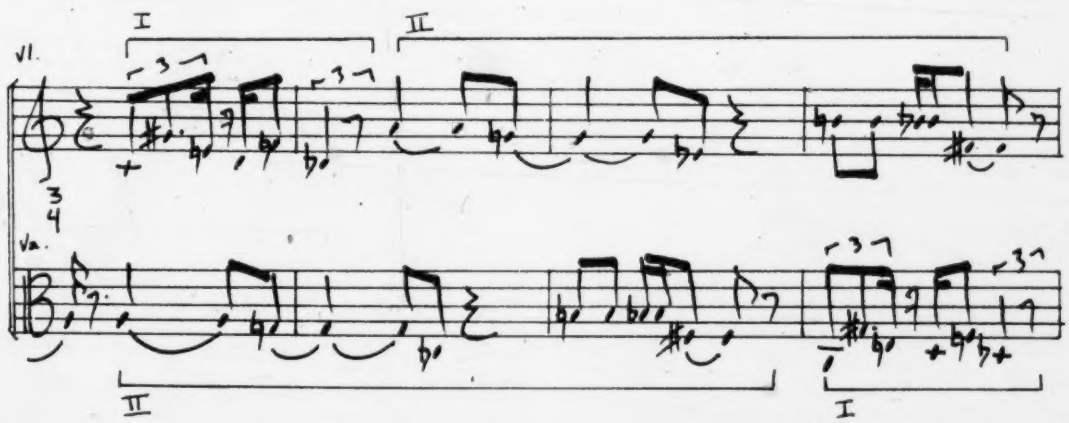
Example 2. Other ornamentation of the Row (mm. 33-35).



Departing from the traditional usage of ostinati, this ostinato varies in length with each of its six presentations. Through the course of the movement, the ostinato is presented in successively higher registers with alterations in durational values and tempo. The ostinato gets shorter with each presentation, culminating in the final broad climactic statement (mm. 74-82).

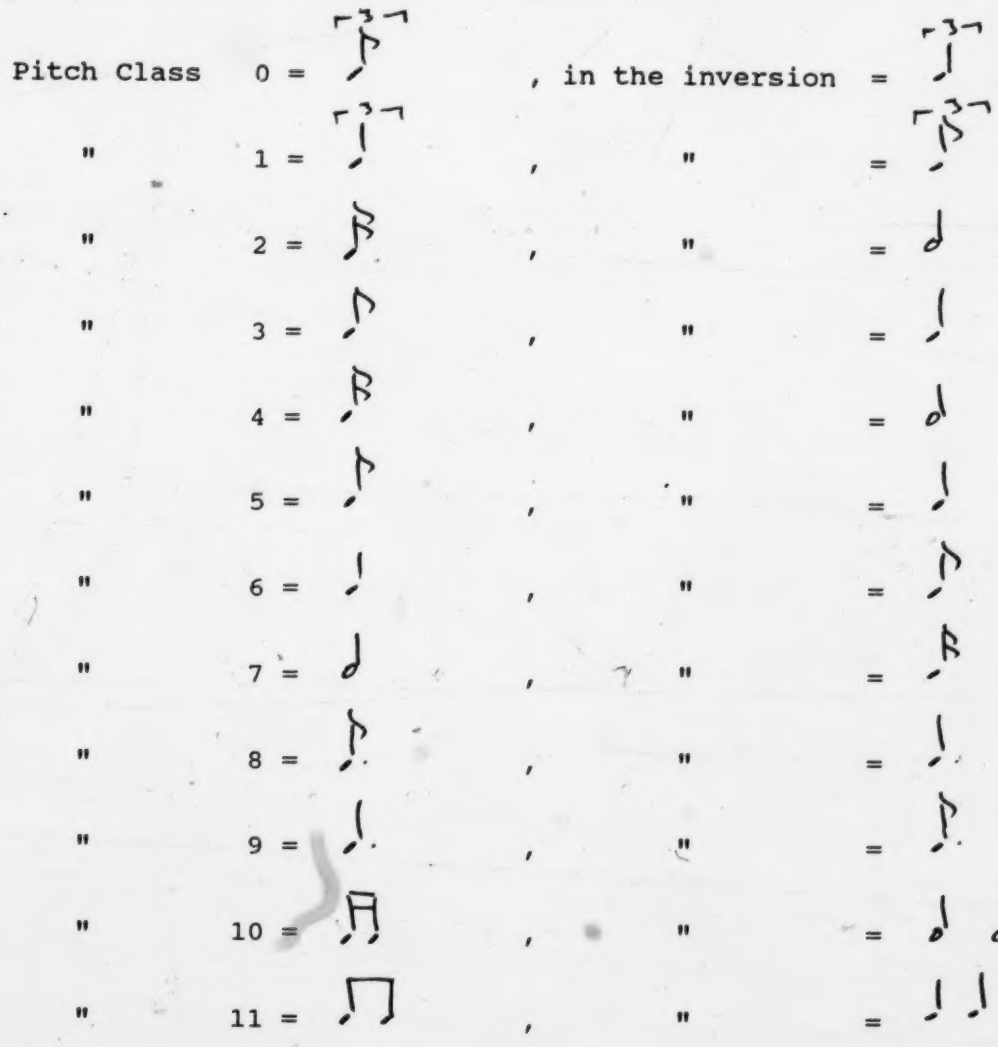
Counterpointing the ostinato are successive presentations of different versions of the row. Thus, while one instrument plays the "ostinato theme," the other two play various forms of Row 1. For instance, in Example 3 rotation is used to simulate combinatoriality.

Example 3. Counterpoints (mm. 22-25).



In measures 14-64, the rhythm of the counterpoints is serialized by attaching fixed durational values to each element of the row. Figure 5 illustrates this serial scheme.

Figure 5. Rhythmic serialization of measures 14-64.

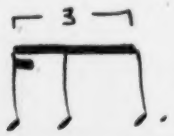


As the presentations of the row unfold, there are instances in which precompositional order are altered in order to highlight particular vertical sonorities and melodic inflexions. This occurs first in measure 30. Strict pre-established order is abandoned from measure 64 onward: the previous "variations" are then used as a source of materials.

The ostinato passes through the cello, viola, and violin respectively. Through this constantly rising tessitura, the character gradually changes from a very introspective opening to a rather glowing mood at measure 74. In addition to registral placement, two other factors serve to articulate the final ostinato statement (violin mm. 74-82), the structural goal. The first is the accelerando that ends at the last statement of the ostinato. The second is dynamics which range from pianissimo (m. 14) to fortissimo at the beginning of the final ostinato statement (m. 74).

The coda (mm. 83-96) derives from the introduction, but it also includes at measure 85 a reference to a characteristic rhythmic cell (see Figure 6), which is regularly employed up to measure 64.

Figure 6. Characteristic rhythmic cell.



SECOND MOVEMENT

The duration of the second movement is approximately seven and a half minutes. The second movement is a A B A' C A'' rondo. Figure 7 displays the formal scheme of the second movement.

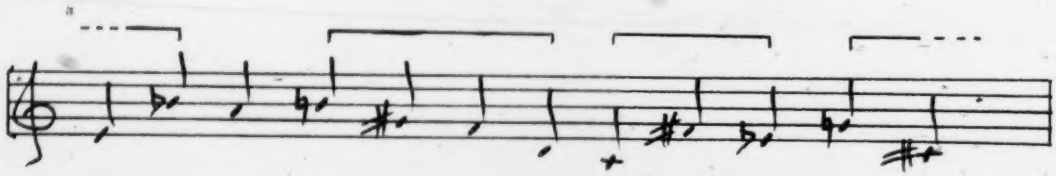
Figure 7. Structure of the second movement.

Section	Measures	Tempo	
A (a b)	1 - 13	72	eighth note
B	14 - 23	96	"
A' (b' a' b'')	24 - 36	72	"
C (c d c')	37 - 64	96-72-96	"
A''(a'' b''')	64 - 81	72	"

(Small letters indicate subdivision of sections, which will be referred as "parts" of sections.)

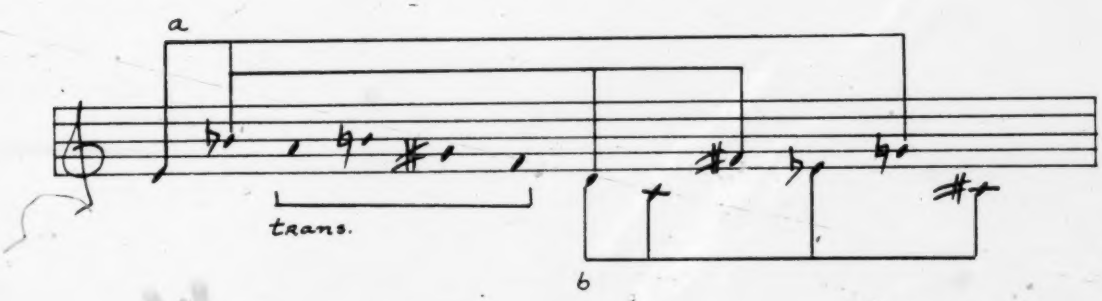
Section A introduces Row 2 (see Figure 8), while sections B and C use materials (including Row 1) from the first movement. Row 2 is utilized as an element of contrast. In Row 2 the predominance of minor thirds creates diminished triads, in opposition to augmented triads of Row 1. The diminished triads, characteristic of Row 2, are used vertically in few instances between measures 74 and 82 in the first movement, foreshadowing Row 2.

Figure 8. Row 2.



Section A consists of two parts, labelled a and b, which are contrasting expressions of Row 2. Each part emphasizes a different group of pitch classes, as shown in Figure 9. Stems up show the two groups of pitches stressed in part a. The remaining pitches form the transition from part a to part b.

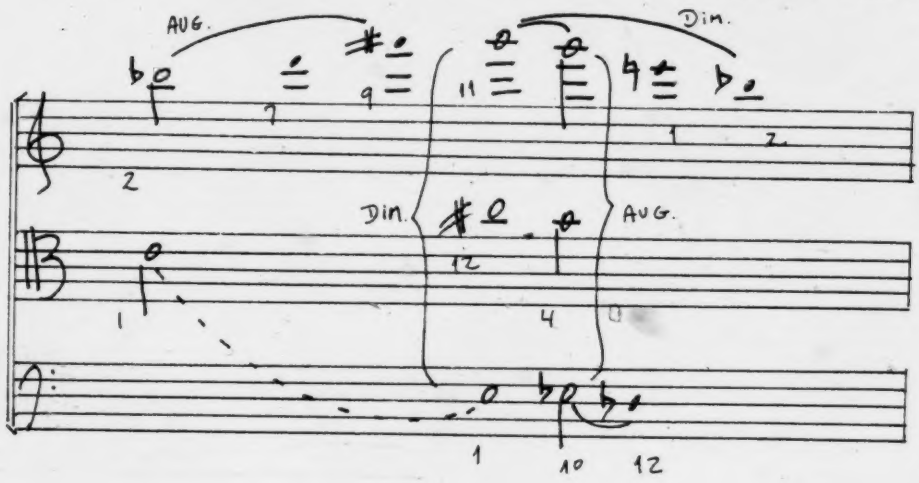
Figure 9. Row usage in section A.



Part a balances the fundamental diminished character of the row with the latent augmented possibilities. In part a the row is organized so as to emphasize the augmented triad: as the graph in Figure 10 shows, part a contains an ascending arpeggiation of the augmented triad Bb D F# in the violin (mm. 3-4) followed by a vertical statement of the diminished triad E C# G (m. 4), which is an extension of the initial tritone (an incomplete diminished triad). In measure 5, the violin plays a descending arpeggiation of the diminished

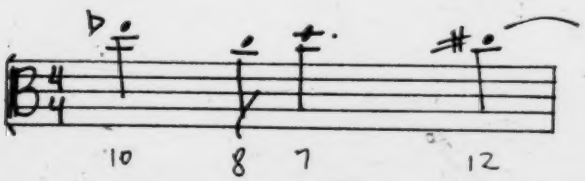
triad G E Bb. The first chord in measure 5 is the augmented triad Eb B G. G, played in the violin, is a link between the diminished chord and the augmented chord stated at measures 4 and 5.

Figure 10. Usage of augmented and diminished triads.



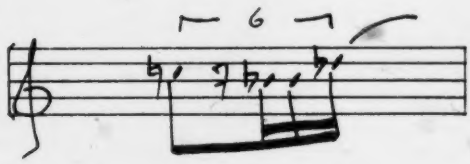
The transition (mm. 6-7), signaled by reduced texture, is followed by part b of section A, which is based on a prominent melodic inflexion (see Example 4) from part a played in the viola.

Example 4. Viola, measure 3.



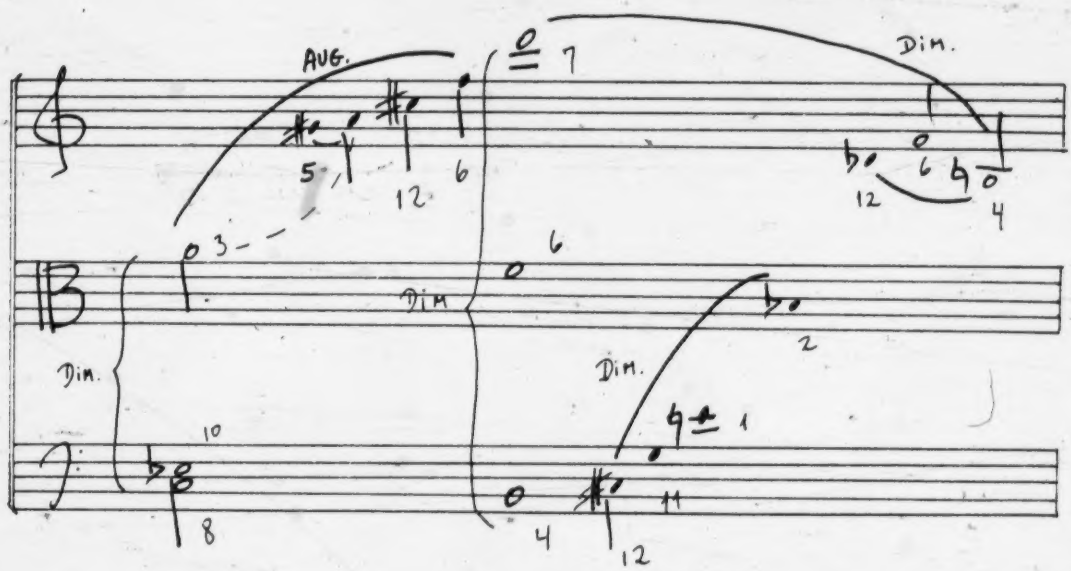
Section B is in one part. Although section B is also based on Row 2, it presents a number of elements of contrast. While section A is in a homophonic, chorale-like texture, section B is a confrontation of sonorities. Pizzicato, staccato, tremolo, and harmonics are introduced. Some materials are drawn from a cell within the first movement, shown in Example 5. The repetition of notes, the minor third, the tie, the sextuplet--all the features of this cell are used in section B.

Example 5. Movement I, violin measure 18.



Part b' of section A' (mm. 24-25) is played in pizzicato by the cello. Figure 11, a graph which omits pitch class repetitions, shows the use of augmented and diminished triads in this part, a procedure corresponding to that initially encountered in part a (see Figure 10).

Figure 11. Reduction of measures 26-28.

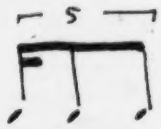


Part a' and b' occupy measures 26-28 and measures 28-34 respectively. In part b'' the variation consists primarily in the exchange of voices and registral placement, and only secondarily in the rhythmic and melodic aspects.

A transitional passage (mm. 35-36) anticipates the principal motivic material of section C. Section C is in ternary form. As in section B, material is drawn from the first movement as a basis for section C, but rather than using a figure such as that in Example 5 as a basis, section C uses a rhythmic cell and Row 1. A prominent triplet rhythm from the first movement is used as the basis for a characteristic quintuplet rhythm here, as shown in Example 6a and 6b.

Example 6a. Movement I, violin measure 14.

Example 6b. Movement II, violin measure 39.



This quintuplet rhythmic cell provides the basis for new rhythmic developments in parts c and c' (see Example 7), and the vigorous new rhythms provide a characteristic mood for these parts.

Example 7. Rhythmic cells introduced in section C (mm. 38-39).

The central part (d) of section C (mm. 55-59) is a varied restatement of the "ostinato theme" of the first movement, now based on Row 2. Despite a slow tempo and soft dynamics, part d has a climactic effect in that it presents far ranging linkage with the first movement through shared material.

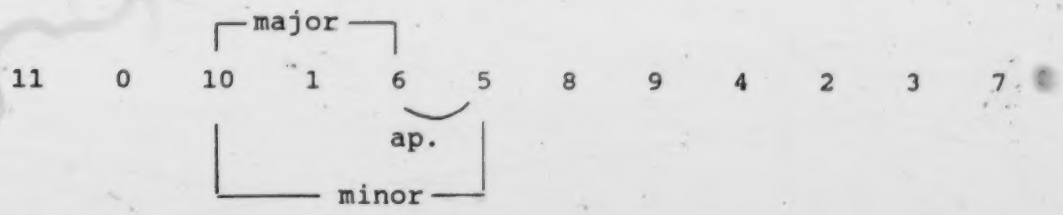
Part c' functions as a very brief codetta.

Section A'' is again in binary form in which part b''' (mm. 69-81) is extended in order to serve as the close for the entire movement.

THIRD MOVEMENT

Movement I is based essentially on one row while suggesting a second related row. Movement II establishes greater balance in the usage of each of these rows while movement III begins with an entirely new row (Row 3) proceeding on to a reintegration of Row 1. The characteristic quality of this new row, shown in Figure 12, is that it contains major and minor triads (see the brackets in Figure 12). These triads are not used to evoke tonal functions, but they are explored as a contrast to the prevailing dissonant context. Their consonant qualities are frequently emphasized through longer durations such as eighth notes or sustained simultaneities. See for example the B major triad in the viola in measure 2, and a vertical use of the C# minor and A major chords combined to form a major major seventh chord in measure 101.

Figure 12. Row 3.



These two rows are employed in a formal scheme of six sections. The lengths of these sections are shown in Figure 13.

Figure 13. Formal scheme of the third movement.

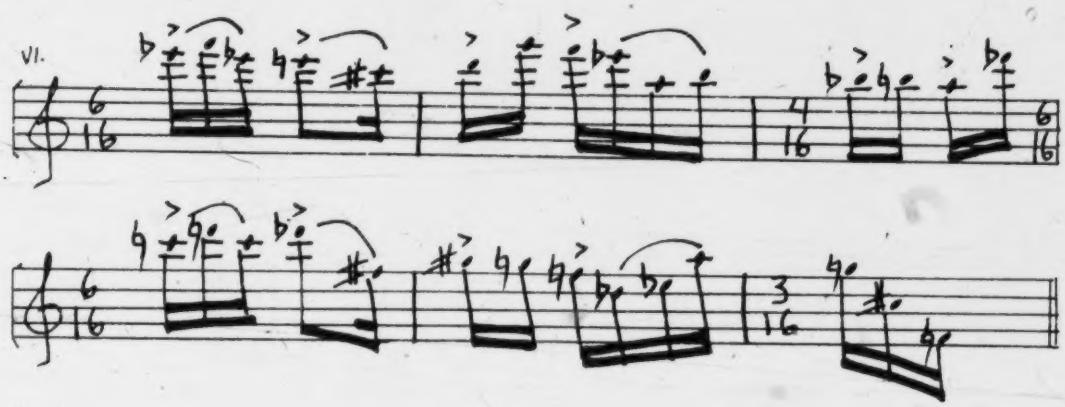
Section	Measures	Tempo
1	1 - 50	160 eighth note
2	51 - 80	72 quarter note
3	81 - 98	50 quarter note
4	99 - 112	50 quarter note
5	113 - 122	50 quarter note
6	123 - 140	160 eighth note

The entire movement lasts approximately six and a half minutes.

With the exception of section 3, all the other sections are interrelated by pitch materials and motives; sections 1 and 6 refer to section 1, while section 5 refers to section 2. Section 3 stands alone in the movement, but it refers to the first movement.

In section 1, the theme is a melodic line, shown in Example 8. The theme, while based on the third row, is not simply the third row itself. Rather, it is expanded by the addition of other notes. The notes of the row are stressed with dynamics accents (>).

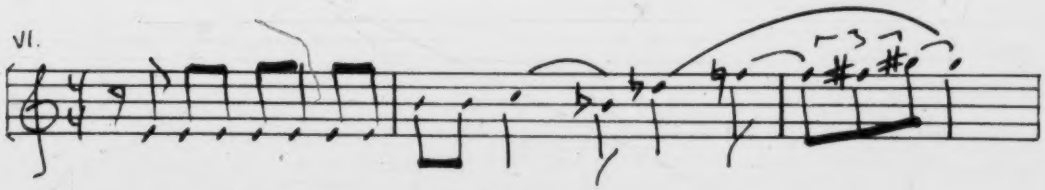
Example 8. Theme of section 1 (mm. 1-6).



Section 1 is a succession of presentations of the theme in different contrapuntal arrangements in a predominantly polyphonic and polyrhythmic texture.

The beginning of section 2 is marked by an imitative opening based on the following theme:

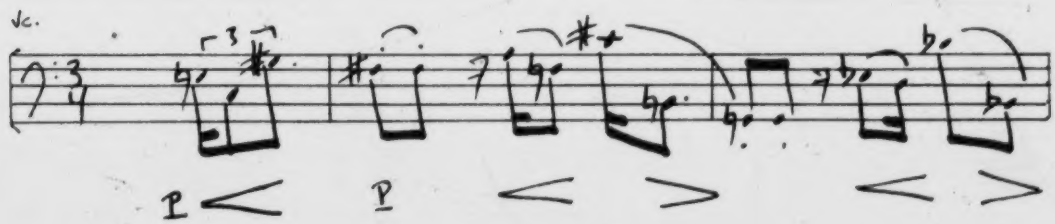
Example 9. Theme of section 2 (mm. 51-53).



This new theme is also based on the third row. The remainder of section 2 is a continuous development of its imitative opening. A transition, measures 77-80, leads to section 3. During this transition the third row is abandoned, while the first row is reintroduced.

Section 3 is framed by a tiny introduction (mm. 81-81) and somewhat longer codetta (mm. 95-98), both formed of the same material. The theme of section 3 (see Example 10) is based on Row 1, and is a composite of elements drawn from the first movement. Thus it is a unifying element in the composition as a whole, but a contrasting element in terms of the third movement. The theme of section 3 is first stated in the cello, then in the viola, and finally in the violin in a passacaglia-like manner. Thus references to the first movement are based on pitch collection and formal structure.

Example 10. Theme of section 3 (mm. 82-84).



Section 4 is based on section 1, but it is in the tempo of the sections which surround it. Thus it simultaneously provides local continuity as well as more distant reference. Section 4 uses only the opening of the theme of section 1, and here the major and minor triads are interlocked; C major and E minor chords, a major major seventh, appears as a simultaneity in the ensemble in measure 100.

Section 5 is a brief version of section 2. The beginning of section 5 is a foreshadowing of the main restatement of the opening of section 2.

After a brief transition (mm. 121-122), section 6, the coda, begins. The coda is in two parts. Part 1 (mm. 123-134) reestablishes the initial fast tempo and reasserts the agitated rhythmic figuration of the beginning of the movement, but it is based on the first row, rather than the third row. By combining the first row with the texture and tempo of section 1, part 1 of the coda rounds out the movement. The agitated rhythm first played in the violin, is taken up, first by the viola, and then by the cello, and reaches a climax on the sustained ff of measure 135. Here begins part 2 of the coda (mm. 135-140) which dissipates the energy of part 1 of the coda by using sustained notes in a much slower tempo. Following the fortissimo polyphony, an echo, an octave lower and piano, provides a conclusion by relaxing the intensity and agitation of the first part of the coda.

CONCLUSION

The pitch by pitch connections in a row provide easily perceived intervallic relationships, but there also exists in any twelve note row, the intervallic relationships among non-sequential notes. These intervals are less directly perceived if they are not highlighted through compositional means. This composition explores the potential for realigning intervallic content so as to provide relatedness among contrasting rows. Although some use of serial techniques is applied, a specific serial discipline is not followed through the entirety of the work. Rather, serialism is used as a system essentially at the precompositional stage in generating both thematic materials and the treatment of these materials in a musical context that is not strictly "serial."